WEBVTT

00:00:00.000 --> 00:00:01.449 OK, so I'll go ahead and get

00:00:01.449 --> 00:00:02.560 started so welcome everybody.

00:00:02.560 --> 00:00:04.000 My name is Pam Kunz.

00:00:04.000 --> 00:00:06.170 I am a GI medical oncologist and

00:00:06.170 --> 00:00:08.747 I focused on the care of patients

00:00:08.747 --> 00:00:10.712 with neuroendocrine tumors and it

00:00:10.712 --> 00:00:13.213 is really our pleasure tonight to

00:00:13.213 --> 00:00:15.524 do a special patient focused event.

00:00:15.524 --> 00:00:16.620 We call them smilow,

00:00:16.620 --> 00:00:18.924 shares understanding Nets,

00:00:18.924 --> 00:00:22.764 new treatment advances and innovations.

00:00:22.770 --> 00:00:24.708 And I have some exciting news,

00:00:24.710 --> 00:00:26.130 so this is also timed.

00:00:26.130 --> 00:00:28.839 This event is timed with net Cancer

NOTE Confidence: 0.928939597272727

00:00:28.839 --> 00:00:31.190 Awareness Day which is tomorrow and

NOTE Confidence: 0.928939597272727

00:00:31.190 --> 00:00:33.428 we just got news that Connecticut

NOTE Confidence: 0.928939597272727

00:00:33.428 --> 00:00:35.911 has officially acknowledged this

NOTE Confidence: 0.928939597272727

00:00:35.911 --> 00:00:38.437 day in the state of Connecticut

NOTE Confidence: 0.928939597272727

00:00:38.437 --> 00:00:41.445 as net Cancer Awareness Day and

NOTE Confidence: 0.928939597272727

00:00:41.445 --> 00:00:43.657 what's also really exciting.

NOTE Confidence: 0.928939597272727

00:00:43.660 --> 00:00:46.040 And this is through advocacy work through

NOTE Confidence: 0.928939597272727

00:00:46.040 --> 00:00:48.040 the Carcinoid Cancer Foundation that

NOTE Confidence: 0.928939597272727

00:00:48.040 --> 00:00:50.630 the large majority of the United States,

NOTE Confidence: 0.928939597272727

00:00:50.630 --> 00:00:52.660 including Puerto Rico has also.

NOTE Confidence: 0.928939597272727

00:00:52.660 --> 00:00:54.972 Acknowledged net Cancer Awareness

NOTE Confidence: 0.928939597272727

00:00:54.972 --> 00:00:58.440 Day officially on in November 10th.

NOTE Confidence: 0.928939597272727

00:00:58.440 --> 00:00:59.862 So I'd like to just briefly

NOTE Confidence: 0.928939597272727

00:00:59.862 --> 00:01:00.573 introduce our speakers.

NOTE Confidence: 0.928939597272727

00:01:00.580 --> 00:01:03.244 We are going to go in this order,

NOTE Confidence: 0.928939597272727

00:01:03.250 --> 00:01:05.779 so I will be speaking first on next 101

NOTE Confidence: 0.928939597272727

00:01:05.779 --> 00:01:08.419 and basics of treatment also moderated.

NOTE Confidence: 0.928939597272727

00:01:08.420 --> 00:01:10.132 Q&A Doctor Jon Huntsman,

NOTE Confidence: 0.928939597272727

00:01:10.132 --> 00:01:12.272 an assistant professor of surgery,

NOTE Confidence: 0.928939597272727

00:01:12.280 --> 00:01:13.660 will be speaking about

NOTE Confidence: 0.928939597272727

00:01:13.660 --> 00:01:15.040 surgical management of Nets.

NOTE Confidence: 0.928939597272727

00:01:15.040 --> 00:01:16.393 Doctor David Madoff,

NOTE Confidence: 0.928939597272727

00:01:16.393 --> 00:01:18.197 professor of radiology and

NOTE Confidence: 0.928939597272727

00:01:18.197 --> 00:01:20.030 interventional radiology will be

NOTE Confidence: 0.928939597272727

00:01:20.030 --> 00:01:22.130 speaking about liver directed treatment.

NOTE Confidence: 0.928939597272727

00:01:22.130 --> 00:01:24.090 Dr Darko Poker associate

NOTE Confidence: 0.928939597272727

00:01:24.090 --> 00:01:25.560 professor of radiology,

NOTE Confidence: 0.928939597272727

00:01:25.560 --> 00:01:28.325 will be talking about imaging of Nets.

NOTE Confidence: 0.928939597272727

00:01:28.330 --> 00:01:29.131 And Doctor Miriam,

NOTE Confidence: 0.928939597272727

00:01:29.131 --> 00:01:30.733 a boy and an assistant professor

NOTE Confidence: 0.928939597272727

00:01:30.733 --> 00:01:32.590 of radiology and nuclear medicine,

NOTE Confidence: 0.928939597272727

00:01:32.590 --> 00:01:34.785 will speaking will be speaking

NOTE Confidence: 0.928939597272727

00:01:34.785 --> 00:01:36.541 about theranostics and peptide

NOTE Confidence: 0.928939597272727

00:01:36.541 --> 00:01:38.359 receptor radionuclide therapy.

NOTE Confidence: 0.928939597272727

00:01:38.360 --> 00:01:40.000 So we will start with the basics just

NOTE Confidence: 0.928939597272727

00:01:40.000 --> 00:01:41.668 to get everyone on the same page.

NOTE Confidence: 0.928939597272727

00:01:41.670 --> 00:01:44.250 In terms of background and nomenclature

NOTE Confidence: 0.928939597272727

00:01:44.250 --> 00:01:46.790 and some basics of treatment.

NOTE Confidence: 0.928939597272727

00:01:46.790 --> 00:01:48.716 So I'd like to start with a slide that

NOTE Confidence: 0.928939597272727

00:01:48.716 --> 00:01:50.977 I think is actually incredibly hopeful.

NOTE Confidence: 0.928939597272727

00:01:50.980 --> 00:01:54.870 It is a timeline of development of new

NOTE Confidence: 0.928939597272727

00:01:54.870 --> 00:01:57.445 FDA approvals in neuroendocrine tumors,

NOTE Confidence: 0.928939597272727

00:01:57.450 --> 00:01:58.662 which are along the.

NOTE Confidence: 0.928939597272727

00:01:58.662 --> 00:02:00.480 The bottom part of your screen

NOTE Confidence: 0.928939597272727

00:02:00.543 --> 00:02:02.395 and also imaging approvals and

NOTE Confidence: 0.928939597272727

00:02:02.395 --> 00:02:04.530 in the last decade we have seen

NOTE Confidence: 0.928939597272727

00:02:04.530 --> 00:02:07.399 just an explosion of research in

NOTE Confidence: 0.928939597272727

00:02:07.399 --> 00:02:09.672 neuroendocrine tumors and we've had

NOTE Confidence: 0.928939597272727

00:02:09.672 --> 00:02:12.430 seven new FDA approvals in a number

NOTE Confidence: 0.928939597272727

00:02:12.514 --> 00:02:15.170 of different disease indications.

NOTE Confidence: 0.928939597272727

00:02:15.170 --> 00:02:18.174 Pancreatic net long net

NOTE Confidence: 0.928939597272727

00:02:18.174 --> 00:02:20.427 Jeannette carcinoid syndrome,

NOTE Confidence: 0.928939597272727

00:02:20.430 --> 00:02:22.740 and three new imaging modalities

NOTE Confidence: 0.928939597272727

00:02:22.740 --> 00:02:25.050 that have also been approved.

NOTE Confidence: 0.928939597272727

00:02:25.050 --> 00:02:26.004 So I'd like to start with

NOTE Confidence: 0.928939597272727

00:02:26.004 --> 00:02:27.000 a little bit of history.

NOTE Confidence: 0.928939597272727

00:02:27.000 --> 00:02:28.640 I always find this interesting,

NOTE Confidence: 0.928939597272727

00:02:28.640 --> 00:02:30.481 so some of you may have heard

NOTE Confidence: 0.928939597272727

00:02:30.481 --> 00:02:31.980 of the term carcinoid.

NOTE Confidence: 0.928939597272727

00:02:31.980 --> 00:02:33.810 It's actually a German term that

NOTE Confidence: 0.928939597272727

00:02:33.810 --> 00:02:35.825 was coined in the early 1900s

NOTE Confidence: 0.928939597272727

00:02:35.825 --> 00:02:37.598 by a German pathologist, Dr.

NOTE Confidence: 0.928939597272727

00:02:37.598 --> 00:02:38.214 Or burned,

NOTE Confidence: 0.928939597272727

00:02:38.214 --> 00:02:40.370 or for whose picture is there on

NOTE Confidence: 0.928939597272727

00:02:40.439 --> 00:02:42.406 the right he described this cancer

NOTE Confidence: 0.928939597272727

00:02:42.406 --> 00:02:44.871 and meant that it was quote cancer

NOTE Confidence: 0.928939597272727

00:02:44.871 --> 00:02:47.188 like I think he contributed a great

NOTE Confidence: 0.928939597272727

00:02:47.188 --> 00:02:49.637 deal to the field and really started

NOTE Confidence: 0.928939597272727

00:02:49.637 --> 00:02:51.994 some of the research in this area.

NOTE Confidence: 0.928939597272727

00:02:51.994 --> 00:02:53.579 But it was a misnomer.

NOTE Confidence: 0.928939597272727

00:02:53.580 --> 00:02:54.936 We now in fact know these.

NOTE Confidence: 0.928939597272727

00:02:54.940 --> 00:02:57.390 Are cancers and they are coded as

NOTE Confidence: 0.928939597272727

00:02:57.390 --> 00:03:00.060 such and treated that way I will and

NOTE Confidence: 0.928939597272727

00:03:00.060 --> 00:03:02.450 will speak about more of that later.

NOTE Confidence: 0.928939597272727

00:03:02.450 --> 00:03:04.375 Nets can start throughout the

NOTE Confidence: 0.928939597272727

00:03:04.375 --> 00:03:06.300 body called the primary site.

NOTE Confidence: 0.928939597272727

00:03:06.300 --> 00:03:07.552 That's where they originate,

00:03:07.552 --> 00:03:09.430 and they most commonly start in

00:03:09.490 --> 00:03:10.846 the GI tract in the lungs.

00:03:10.850 --> 00:03:12.540 Nets are rare by incidence,

00:03:12.540 --> 00:03:14.562 meaning the number diagnosed per year

00:03:14.562 --> 00:03:16.800 but are more common by prevalence,

00:03:16.800 --> 00:03:18.605 meaning the number of patients

00:03:18.605 --> 00:03:20.410 alive at any given time.

00:03:20.410 --> 00:03:23.434 Most grow slowly in comparison with

00:03:23.434 --> 00:03:24.946 their adenocarcinoma counterparts.

00:03:24.950 --> 00:03:27.610 Adenocarcinomas are the more common type of

00:03:27.610 --> 00:03:30.521 GI cancers like the run of the mill, colon,

00:03:30.521 --> 00:03:33.809 cancer or run of the mill pancreas cancer.

00:03:33.810 --> 00:03:35.889 And somatostatin receptors,

00:03:35.890 --> 00:03:37.470 which many of us will touch on,

00:03:37.470 --> 00:03:39.962 is is a special receptor on the

00:03:39.962 --> 00:03:41.849 surface of neuroendocrine tumor cells,

NOTE Confidence: 0.892864715625

00:03:41.850 --> 00:03:43.940 and they're usually present on

NOTE Confidence: 0.892864715625

00:03:43.940 --> 00:03:48.200 the surface of most net cells.

NOTE Confidence: 0.892864715625

00:03:48.200 --> 00:03:49.766 This is a little bit of a busy table.

NOTE Confidence: 0.892864715625

00:03:49.770 --> 00:03:52.010 I want you to focus along the left.

NOTE Confidence: 0.892864715625

00:03:52.010 --> 00:03:54.327 These are what I consider key patient

NOTE Confidence: 0.892864715625

00:03:54.327 --> 00:03:55.890 characteristics that impact treatment.

NOTE Confidence: 0.892864715625

00:03:55.890 --> 00:03:57.766 We're going to spend a few moments

NOTE Confidence: 0.892864715625

00:03:57.766 --> 00:04:00.069 on on some of these hormone status,

NOTE Confidence: 0.892864715625

00:04:00.070 --> 00:04:01.850 extent and burden of disease.

NOTE Confidence: 0.892864715625

00:04:01.850 --> 00:04:05.276 That's really the stage grade and

NOTE Confidence: 0.892864715625

00:04:05.276 --> 00:04:07.560 differentiation pace of growth.

NOTE Confidence: 0.892864715625

00:04:07.560 --> 00:04:10.810 Primary site and means somatostatin

NOTE Confidence: 0.892864715625

00:04:10.810 --> 00:04:12.110 receptor status.

NOTE Confidence: 0.892864715625

00:04:12.110 --> 00:04:14.530 So let's talk a little bit about hormones.

NOTE Confidence: 0.892864715625

00:04:14.530 --> 00:04:16.574 Some of you may have heard the

00:04:16.574 --> 00:04:18.320 terms functional and nonfunctional.

00:04:18.320 --> 00:04:20.560 Both functional means that we

00:04:20.560 --> 00:04:22.800 have symptoms from hormone access,

00:04:22.800 --> 00:04:24.522 a measurable hormone in the urine

00:04:24.522 --> 00:04:25.383 or the blood,

00:04:25.390 --> 00:04:28.024 and then patients have true symptoms

00:04:28.024 --> 00:04:30.379 that are directly attributable to that.

00:04:30.380 --> 00:04:32.372 Carcinoid syndrome is a classic example

00:04:32.372 --> 00:04:34.958 of that happens in only about 10% of

00:04:34.958 --> 00:04:36.948 patients with small intestine Nets.

00:04:36.950 --> 00:04:39.036 In the picture you can see flushing

00:04:39.036 --> 00:04:41.398 on the cheeks and the nose that

00:04:41.398 --> 00:04:43.153 is classic for carcinoid syndrome.

00:04:43.160 --> 00:04:45.852 Pancreatic Nets also secrete

00:04:45.852 --> 00:04:48.014 hormones insulin, gastrin, Glucagon.

00:04:48.014 --> 00:04:48.828 For example,

NOTE Confidence: 0.892864715625

00:04:48.828 --> 00:04:51.270 if a patient who creates insulin

NOTE Confidence: 0.892864715625

00:04:51.337 --> 00:04:53.305 that can cause low blood sugar,

NOTE Confidence: 0.892864715625

00:04:53.310 --> 00:04:55.770 it's more common to have a

NOTE Confidence: 0.892864715625

00:04:55.770 --> 00:04:57.000 non functional net.

NOTE Confidence: 0.892864715625

00:04:57.000 --> 00:05:00.241 So for this it's patients who are

NOTE Confidence: 0.892864715625

00:05:00.241 --> 00:05:02.229 asymptomatic or their symptoms

NOTE Confidence: 0.892864715625

00:05:02.229 --> 00:05:04.759 or not from hormone access.

NOTE Confidence: 0.892864715625

00:05:04.760 --> 00:05:06.245 Let's also talk about the

NOTE Confidence: 0.892864715625

00:05:06.245 --> 00:05:07.730 difference between stage and grade.

NOTE Confidence: 0.892864715625

00:05:07.730 --> 00:05:08.194 These could.

NOTE Confidence: 0.892864715625

00:05:08.194 --> 00:05:09.586 This can be kind of confusing,

NOTE Confidence: 0.892864715625

00:05:09.590 --> 00:05:11.711 so stage I think of where is

NOTE Confidence: 0.892864715625

00:05:11.711 --> 00:05:13.419 the cancer in your body?

NOTE Confidence: 0.892864715625

00:05:13.420 --> 00:05:15.796 What is the extent of disease?

NOTE Confidence: 0.892864715625

00:05:15.800 --> 00:05:18.536 We usually define this based on

NOTE Confidence: 0.892864715625

00:05:18.536 --> 00:05:20.612 something called the AJCC staging

NOTE Confidence: 0.892864715625

00:05:20.612 --> 00:05:23.069 criteria and that uses a scale of

NOTE Confidence: 0.892864715625

00:05:23.069 --> 00:05:25.444 stages one through 4 and it depends

NOTE Confidence: 0.892864715625

00:05:25.444 --> 00:05:27.410 on things like tumor location,

NOTE Confidence: 0.892864715625

00:05:27.410 --> 00:05:27.955 size,

NOTE Confidence: 0.892864715625

00:05:27.955 --> 00:05:31.225 lymph node involvement and metastatic sites.

NOTE Confidence: 0.892864715625

00:05:31.230 --> 00:05:33.093 And here you can see these are two pictures.

NOTE Confidence: 0.892864715625

00:05:33.100 --> 00:05:34.364 Doctor Abovyan will go.

NOTE Confidence: 0.892864715625

00:05:34.364 --> 00:05:36.260 Through this later of a gallium

NOTE Confidence: 0.892864715625

00:05:36.260 --> 00:05:38.730 68 PET scan and on the left in

NOTE Confidence: 0.892864715625

00:05:38.730 --> 00:05:40.736 the middle is a pancreatic net,

NOTE Confidence: 0.892864715625

00:05:40.736 --> 00:05:43.200 and on the right is a patient with

NOTE Confidence: 0.892864715625

00:05:43.267 --> 00:05:45.915 pancreatic net that is spread to the liver.

NOTE Confidence: 0.892864715625

00:05:45.920 --> 00:05:46.506 Now grade.

NOTE Confidence: 0.892864715625

00:05:46.506 --> 00:05:47.678 On the other hand,

NOTE Confidence: 0.892864715625

00:05:47.680 --> 00:05:49.656 is what do the cells look like under

NOTE Confidence: 0.892864715625

00:05:49.656 --> 00:05:51.465 the microscope so we don't have a

NOTE Confidence: 0.892864715625

00:05:51.465 --> 00:05:52.725 pathologist on our panel tonight,

NOTE Confidence: 0.892864715625

00:05:52.730 --> 00:05:55.258 but they are critical member of the team.

NOTE Confidence: 0.892864715625

00:05:55.260 --> 00:05:57.356 They look at these cells and can tell

NOTE Confidence: 0.892864715625

00:05:57.356 --> 00:05:59.707 us is it low grade or slower growing

NOTE Confidence: 0.892864715625

00:05:59.707 --> 00:06:02.059 or high grade and faster growing and

NOTE Confidence: 0.892864715625

00:06:02.059 --> 00:06:04.663 these are primarily based on two features.

NOTE Confidence: 0.892864715625

00:06:04.670 --> 00:06:06.890 One is called the Ki 67

NOTE Confidence: 0.892864715625

00:06:06.890 --> 00:06:08.370 and another mitotic index.

NOTE Confidence: 0.892864715625

00:06:08.370 --> 00:06:10.730 You may see those in your pathology reports.

NOTE Confidence: 0.83823187

00:06:10.730 --> 00:06:12.746 Those are markers of

NOTE Confidence: 0.83823187

00:06:12.746 --> 00:06:15.654 proliferation and as of 2019,

NOTE Confidence: 0.83823187

00:06:15.654 --> 00:06:18.659 the digestive World Health Association

NOTE Confidence: 0.83823187

00:06:18.659 --> 00:06:20.631 classification break Nets down

NOTE Confidence: 0.83823187

00:06:20.631 --> 00:06:23.620 into grade 1/2 and three and well

NOTE Confidence: 0.83823187

00:06:23.707 --> 00:06:27.279 differentiated and poorly differentiated.

NOTE Confidence: 0.83823187

00:06:27.280 --> 00:06:28.399 Primary site matters,

NOTE Confidence: 0.83823187

00:06:28.399 --> 00:06:31.010 we used to lump all Nets together,

NOTE Confidence: 0.83823187

00:06:31.010 --> 00:06:33.313 but we now know that they need

NOTE Confidence: 0.83823187

00:06:33.313 --> 00:06:35.216 to be researched and often

NOTE Confidence: 0.83823187

00:06:35.216 --> 00:06:36.896 treated in different ways.

NOTE Confidence: 0.83823187

00:06:36.900 --> 00:06:39.042 So I gave some examples here

NOTE Confidence: 0.83823187

00:06:39.042 --> 00:06:40.470 where Nets can originate.

NOTE Confidence: 0.83823187

00:06:40.470 --> 00:06:41.590 As I'd mentioned earlier,

NOTE Confidence: 0.83823187

00:06:41.590 --> 00:06:43.622 small intestine is one of the more

NOTE Confidence: 0.83823187

00:06:43.622 --> 00:06:45.122 common sites and many treatments

NOTE Confidence: 0.83823187

00:06:45.122 --> 00:06:47.040 are tailored based on primary site.

NOTE Confidence: 0.83823187

00:06:47.040 --> 00:06:48.110 It's probably worth mentioning

NOTE Confidence: 0.83823187

00:06:48.110 --> 00:06:50.670 that if you or if you know someone

NOTE Confidence: 0.83823187

00:06:50.670 --> 00:06:52.867 that has a net that has spread

NOTE Confidence: 0.83823187

00:06:52.867 --> 00:06:54.779 to another place like the liver,

NOTE Confidence: 0.83823187

00:06:54.780 --> 00:06:57.230 you don't also have liver cancer it.

NOTE Confidence: 0.83823187

00:06:57.230 --> 00:06:59.170 It maintains the properties

NOTE Confidence: 0.83823187

00:06:59.170 --> 00:07:01.110 from where it started,

NOTE Confidence: 0.83823187

00:07:01.110 --> 00:07:02.580 so it would always be called,

NOTE Confidence: 0.83823187

00:07:02.580 --> 00:07:04.320 for example a pancreatic net,

NOTE Confidence: 0.83823187

00:07:04.320 --> 00:07:07.064 but that has spread to the liver.

NOTE Confidence: 0.83823187

00:07:07.070 --> 00:07:09.009 And this is another theme that we

NOTE Confidence: 0.83823187

00:07:09.009 --> 00:07:11.064 will touch on Doctor Brian will touch

NOTE Confidence: 0.83823187

00:07:11.064 --> 00:07:13.220 on this as as well Doctor Poker.

NOTE Confidence: 0.83823187

00:07:13.220 --> 00:07:14.968 So somatostatin receptors are

NOTE Confidence: 0.83823187

00:07:14.968 --> 00:07:16.279 the perfect target.

NOTE Confidence: 0.83823187

00:07:16.280 --> 00:07:18.350 So my cartoon here in green

NOTE Confidence: 0.83823187

00:07:18.350 --> 00:07:19.730 is the somatostatin receptor.

NOTE Confidence: 0.83823187

00:07:19.730 --> 00:07:21.566 Imagine you have a large population

NOTE Confidence: 0.83823187

00:07:21.566 --> 00:07:24.279 you want to figure out who has the

NOTE Confidence: 0.83823187

00:07:24.279 --> 00:07:26.036 somatostatin receptor. You do.

NOTE Confidence: 0.83823187

00:07:26.036 --> 00:07:27.590 Gallium 68 pets.

NOTE Confidence: 0.83823187

00:07:27.590 --> 00:07:29.906 Can you select out those patients

NOTE Confidence: 0.83823187

00:07:29.906 --> 00:07:32.397 that have this medicine receptor and

NOTE Confidence: 0.83823187

00:07:32.397 --> 00:07:34.756 then let's say you have a therapy

NOTE Confidence: 0.83823187

00:07:34.756 --> 00:07:37.106 that targets that receptor using this.

NOTE Confidence: 0.83823187

00:07:37.106 --> 00:07:39.284 Same target for therapy and diagnostics.

NOTE Confidence: 0.83823187

00:07:39.290 --> 00:07:40.906 It's called Theranostics and

NOTE Confidence: 0.83823187

00:07:40.906 --> 00:07:42.926 we actually have a way.

NOTE Confidence: 0.83823187

00:07:42.930 --> 00:07:43.596 It's sort of.

NOTE Confidence: 0.83823187

00:07:43.596 --> 00:07:45.902 I'd like you to just think about it and

NOTE Confidence: 0.83823187

00:07:45.902 --> 00:07:48.449 try to remember this lock and key analogy

NOTE Confidence: 0.83823187

00:07:48.449 --> 00:07:50.864 so the lock is this medicine receptor.

NOTE Confidence: 0.83823187

00:07:50.870 --> 00:07:53.006 The key attaches to that lock

NOTE Confidence: 0.83823187

00:07:53.006 --> 00:07:54.720 and drags along with it,

NOTE Confidence: 0.83823187

00:07:54.720 --> 00:07:56.910 a radioisotope that we can use

NOTE Confidence: 0.83823187

00:07:56.910 --> 00:07:59.200 for imaging or for treatment.

NOTE Confidence: 0.83823187

00:07:59.200 --> 00:08:00.580 These are general treatment

NOTE Confidence: 0.83823187

00:08:00.580 --> 00:08:01.615 categories for Nets.

NOTE Confidence: 0.83823187

00:08:01.620 --> 00:08:03.138 We're not going to go into

NOTE Confidence: 0.83823187

00:08:03.138 --> 00:08:04.490 all of the details here,

NOTE Confidence: 0.83823187

00:08:04.490 --> 00:08:07.010 but somatostatin analogues,

NOTE Confidence: 0.83823187

00:08:07.010 --> 00:08:07.850 biologics,

NOTE Confidence: 0.83823187

00:08:07.850 --> 00:08:11.210 chemotherapy and peptide receptor

NOTE Confidence: 0.83823187

00:08:11.210 --> 00:08:15.349 radiotherapy are the four main categories.

NOTE Confidence: 0.83823187

00:08:15.350 --> 00:08:17.190 What I'd like to do is walk you

NOTE Confidence: 0.83823187

00:08:17.190 --> 00:08:19.150 through a little bit of a treatment

NOTE Confidence: 0.83823187

00:08:19.150 --> 00:08:21.083 algorithm of how we think about

NOTE Confidence: 0.83823187

00:08:21.083 --> 00:08:22.839 selecting therapies for patients,

NOTE Confidence: 0.83823187

00:08:22.840 --> 00:08:24.588 so this is a little bit busy,

NOTE Confidence: 0.83823187

00:08:24.588 --> 00:08:26.576 and on the next slide I'll give

NOTE Confidence: 0.83823187

00:08:26.576 --> 00:08:28.777 you a reference and we can make

NOTE Confidence: 0.83823187

00:08:28.777 --> 00:08:31.116 that available in the chat so

NOTE Confidence: 0.83823187

00:08:31.116 --> 00:08:34.260 the NCCN or national.

NOTE Confidence: 0.83823187

00:08:34.260 --> 00:08:36.070 Cancer Network is a guideline

NOTE Confidence: 0.83823187

00:08:36.070 --> 00:08:38.296 that physicians from but they also

NOTE Confidence: 0.83823187

00:08:38.296 --> 00:08:40.071 have a patient facing guideline

NOTE Confidence: 0.83823187

00:08:40.071 --> 00:08:41.938 and we have treatment algorithms

NOTE Confidence: 0.83823187

00:08:41.938 --> 00:08:44.194 that are based on primary sites,

NOTE Confidence: 0.83823187

00:08:44.200 --> 00:08:47.022 so this is an example of the lung guidelines.

NOTE Confidence: 0.83823187

00:08:47.022 --> 00:08:49.912 This is an example of pancreas and

NOTE Confidence: 0.83823187

00:08:49.912 --> 00:08:51.930 I'll just walk through this one

NOTE Confidence: 0.83823187

00:08:51.930 --> 00:08:54.820 so often we will start with either

NOTE Confidence: 0.83823187

00:08:54.820 --> 00:08:57.475 observation or octreotide or lanreotide.

NOTE Confidence: 0.83823187

00:08:57.480 --> 00:08:58.458 I should mention, by the way,

NOTE Confidence: 0.83823187

00:08:58.460 --> 00:09:00.728 that this is for patients with

NOTE Confidence: 0.83823187

00:09:00.728 --> 00:09:01.862 metastatic pancreatic net.

NOTE Confidence: 0.83823187

00:09:01.870 --> 00:09:04.150 Subsequent therapies could include.

NOTE Confidence: 0.83823187

00:09:04.150 --> 00:09:05.077 Overall, Mr.

NOTE Confidence: 0.83823187

00:09:05.077 --> 00:09:07.219 Student of these are both pills,

NOTE Confidence: 0.83823187

00:09:07.220 --> 00:09:09.100 capecitabine and Tim is Olumide

NOTE Confidence: 0.83823187

00:09:09.100 --> 00:09:10.980 are both types of chemotherapy.

NOTE Confidence: 0.83823187

00:09:10.980 --> 00:09:14.671 There also pills 177 Lu Dictate

NOTE Confidence: 0.83823187

00:09:14.671 --> 00:09:17.053 is the part that Doctor Abovyan

NOTE Confidence: 0.83823187

00:09:17.053 --> 00:09:18.940 will speak about later.

NOTE Confidence: 0.83823187

00:09:18.940 --> 00:09:20.692 These are not listed by number

NOTE Confidence: 0.83823187

00:09:20.692 --> 00:09:21.860 and So what that

NOTE Confidence: 0.91041226

00:09:21.931 --> 00:09:23.875 generally means is that we tailor

NOTE Confidence: 0.91041226

00:09:23.875 --> 00:09:25.907 the treatment to a specific patient

NOTE Confidence: 0.91041226

00:09:25.907 --> 00:09:28.259 based on how the patient is doing

NOTE Confidence: 0.91041226

00:09:28.259 --> 00:09:30.736 and what our goals of treatment are.

NOTE Confidence: 0.91041226

00:09:30.740 --> 00:09:34.312 So in for many patients with metastatic Nets.

18

NOTE Confidence: 0.91041226

00:09:34.312 --> 00:09:36.527 Our goal is Disease Control,

NOTE Confidence: 0.91041226

00:09:36.530 --> 00:09:39.378 and many of these agents can achieve that.

NOTE Confidence: 0.91041226

00:09:39.380 --> 00:09:41.438 There are some that can also

NOTE Confidence: 0.91041226

00:09:41.438 --> 00:09:42.467 achieve tumor shrinkage,

NOTE Confidence: 0.91041226

00:09:42.470 --> 00:09:44.630 and that's a conversation depending

NOTE Confidence: 0.91041226

00:09:44.630 --> 00:09:47.420 on symptoms of the patient and what

NOTE Confidence: 0.91041226

00:09:47.420 --> 00:09:49.202 we're what we're trying to achieve.

NOTE Confidence: 0.91041226

00:09:49.202 --> 00:09:50.113 This is the link,

NOTE Confidence: 0.91041226

00:09:50.113 --> 00:09:52.019 and again I will put this in the chat.

NOTE Confidence: 0.91041226

00:09:52.020 --> 00:09:55.272 It's a great patient, lay friendly

NOTE Confidence: 0.91041226

00:09:55.272 --> 00:09:58.570 guideline on these NCCN guidelines.

NOTE Confidence: 0.91041226

00:09:58.570 --> 00:09:59.930 I'm small, bowel is also.

NOTE Confidence: 0.91041226

00:09:59.930 --> 00:10:01.810 I'm in an example so I'm just going

NOTE Confidence: 0.91041226

00:10:01.810 --> 00:10:03.910 to end with a few parting thoughts.

NOTE Confidence: 0.91041226

00:10:03.910 --> 00:10:05.919 Whether you are newly diagnosed or have

NOTE Confidence: 0.91041226

00:10:05.919 --> 00:10:07.858 been living with your net for awhile,

NOTE Confidence: 0.91041226

00:10:07.860 --> 00:10:09.659 I want you to focus on understanding

NOTE Confidence: 0.91041226

00:10:09.659 --> 00:10:11.439 a few key basic principles.

NOTE Confidence: 0.91041226

00:10:11.440 --> 00:10:12.994 If your oncologist has not gone

NOTE Confidence: 0.91041226

00:10:12.994 --> 00:10:14.768 over these with you, please ask.

NOTE Confidence: 0.91041226

00:10:14.768 --> 00:10:16.613 These are good questions to

NOTE Confidence: 0.91041226

00:10:16.613 --> 00:10:18.250 bring in hormone status.

NOTE Confidence: 0.91041226

00:10:18.250 --> 00:10:19.840 What is your stage in grade?

NOTE Confidence: 0.91041226

00:10:19.840 --> 00:10:22.896 What is your primary site and do you

NOTE Confidence: 0.91041226

00:10:22.896 --> 00:10:25.730 have presence of somatostatin receptors?

NOTE Confidence: 0.91041226

00:10:25.730 --> 00:10:27.140 I'd like to leave you with

NOTE Confidence: 0.91041226

00:10:27.140 --> 00:10:28.080 some really positive thoughts,

NOTE Confidence: 0.91041226

00:10:28.080 --> 00:10:29.508 so we've made so many advances

NOTE Confidence: 0.91041226

00:10:29.508 --> 00:10:30.840 in the last 10 years.

NOTE Confidence: 0.91041226

00:10:30.840 --> 00:10:32.700 In terms of treatment and imaging,

NOTE Confidence: 0.91041226

00:10:32.700 --> 00:10:34.620 academic centers like Yale

NOTE Confidence: 0.91041226

00:10:34.620 --> 00:10:36.540 will have clinical trials.

NOTE Confidence: 0.91041226

00:10:36.540 --> 00:10:38.804 We will always talk to you about what

NOTE Confidence: 0.91041226

00:10:38.804 --> 00:10:40.452 clinical trials are available and

NOTE Confidence: 0.91041226

00:10:40.452 --> 00:10:42.504 what standard of care treatments are

NOTE Confidence: 0.91041226

00:10:42.504 --> 00:10:44.076 available and clinical trials are

NOTE Confidence: 0.91041226

00:10:44.076 --> 00:10:46.185 really the way we make progress and

NOTE Confidence: 0.91041226

00:10:46.185 --> 00:10:48.255 they are definitely reason for hope.

NOTE Confidence: 0.91041226

00:10:48.260 --> 00:10:51.039 So I am going to stop share.

NOTE Confidence: 0.91041226

00:10:51.040 --> 00:10:53.336 I'm going to pass the baton to my

NOTE Confidence: 0.91041226

00:10:53.336 --> 00:10:54.889 colleague Doctor John compliment.

NOTE Confidence: 0.856436427142857

00:10:56.370 --> 00:10:57.710 Hello there, can you guys

NOTE Confidence: 0.856436427142857

00:10:57.710 --> 00:11:00.340 hear me yes. Alright.

NOTE Confidence: 0.826109553333333

00:11:03.620 --> 00:11:05.210 See my screen.

NOTE Confidence: 0.824534708333333

00:11:13.170 --> 00:11:15.606 Not quite, it still looks dark,

NOTE Confidence: 0.824534708333333

00:11:15.610 --> 00:11:17.220 but maybe it's just thinking.

NOTE Confidence: 0.47138244

00:11:20.020 --> 00:11:23.590 Ah, there we go. There we go.

NOTE Confidence: 0.898194542857143

00:11:23.590 --> 00:11:25.739 Let's see if I can get my.

NOTE Confidence: 0.898194542857143

00:11:25.740 --> 00:11:27.066 Alright, can you see it still?

NOTE Confidence: 0.9619272

00:11:29.040 --> 00:11:32.240 Yes perfect alright good.

NOTE Confidence: 0.921115924210526

00:11:32.240 --> 00:11:33.955 So good evening, everybody welcome

NOTE Confidence: 0.921115924210526

00:11:33.955 --> 00:11:36.382 and thanks to the Cancer Center for

NOTE Confidence: 0.921115924210526

00:11:36.382 --> 00:11:38.643 organizing this and asking me to speak.

NOTE Confidence: 0.921115924210526

00:11:38.650 --> 00:11:40.407 I'm going to go pretty quickly because

NOTE Confidence: 0.921115924210526

00:11:40.407 --> 00:11:42.279 there's a lot to talk about with

NOTE Confidence: 0.921115924210526

00:11:42.279 --> 00:11:44.256 neuroendocrine tumors and a fair bit of

NOTE Confidence: 0.921115924210526

00:11:44.256 --> 00:11:45.906 the treatment doesn't involve surgery,

NOTE Confidence: 0.921115924210526

00:11:45.910 --> 00:11:48.889 so I'm going to try and give a very.

NOTE Confidence: 0.921115924210526

00:11:48.890 --> 00:11:50.670 You know top flight overview

NOTE Confidence: 0.921115924210526

00:11:50.670 --> 00:11:51.738 and some examples.

NOTE Confidence: 0.921115924210526

00:11:51.740 --> 00:11:54.123 I will tell you there are some pictures

NOTE Confidence: 0.921115924210526

00:11:54.123 --> 00:11:57.501 up of surgical procedures and specimens

NOTE Confidence: 0.921115924210526

00:11:57.501 --> 00:12:00.243 on these slides, not right away,

NOTE Confidence: 0.921115924210526

00:12:00.243 --> 00:12:02.349 but a little bit further so.

NOTE Confidence: 0.921115924210526

00:12:02.350 --> 00:12:03.558 Just a forewarning on,

NOTE Confidence: 0.921115924210526

00:12:03.558 --> 00:12:05.684 I'll try and remember to point it

NOTE Confidence: 0.921115924210526

00:12:05.684 --> 00:12:07.476 out before I get to those slides,

NOTE Confidence: 0.921115924210526

00:12:07.480 --> 00:12:10.400 but if anybody might want to turn off

NOTE Confidence: 0.921115924210526

00:12:10.400 --> 00:12:13.056 their monitor and just listen in if you

NOTE Confidence: 0.921115924210526

00:12:13.056 --> 00:12:16.562 don't want to see pictures from from, say,

NOTE Confidence: 0.921115924210526

00:12:16.562 --> 00:12:18.798 an operation, you may wish to do that.

NOTE Confidence: 0.921115924210526

00:12:18.800 --> 00:12:21.488 So without further ado.

NOTE Confidence: 0.921115924210526

00:12:21.490 --> 00:12:24.226 For this portion of the conversation,

NOTE Confidence: 0.921115924210526

00:12:24.230 --> 00:12:27.623 a few quick objectives we want to talk about.

NOTE Confidence: 0.921115924210526

00:12:27.630 --> 00:12:29.376 What are the indications for surgery?

NOTE Confidence: 0.921115924210526

00:12:29.380 --> 00:12:30.330 In other words, what it?

NOTE Confidence: 0.921115924210526

00:12:30.330 --> 00:12:32.244 Why would we take somebody to

NOTE Confidence: 0.921115924210526

00:12:32.244 --> 00:12:33.520 surgery for under consumer?

NOTE Confidence: 0.921115924210526

00:12:33.520 --> 00:12:34.600 Really a big focus,

NOTE Confidence: 0.921115924210526

00:12:34.600 --> 00:12:36.591 and I think Dr Kunz already alluded

NOTE Confidence: 0.921115924210526

00:12:36.591 --> 00:12:38.726 to this is that every case really

NOTE Confidence: 0.921115924210526

00:12:38.726 --> 00:12:40.779 requires an individualized approach,

NOTE Confidence: 0.921115924210526

00:12:40.780 --> 00:12:42.304 and there may be sometimes where

NOTE Confidence: 0.921115924210526

00:12:42.304 --> 00:12:44.040 folks with even a localized or

NOTE Confidence: 0.921115924210526

00:12:44.040 --> 00:12:45.710 under consumer can forgo surgery,

NOTE Confidence: 0.921115924210526

00:12:45.710 --> 00:12:47.870 and we'll talk about an example of that,

NOTE Confidence: 0.921115924210526

00:12:47.870 --> 00:12:49.760 and then we'll talk about what does

NOTE Confidence: 0.921115924210526

00:12:49.760 --> 00:12:52.188 surgery entail? What are some options?

NOTE Confidence: 0.921115924210526

00:12:52.188 --> 00:12:52.660 Uhm,

NOTE Confidence: 0.921115924210526

00:12:52.660 --> 00:12:54.220 and we're going to focus really

NOTE Confidence: 0.921115924210526

00:12:54.220 --> 00:12:54.740 on pancreatic,

NOTE Confidence: 0.921115924210526

00:12:54.740 --> 00:12:57.080 nor under consumers and small bowel

NOTE Confidence: 0.921115924210526

00:12:57.080 --> 00:12:59.719 and or under consumers as sort of the.

00:12:59.720 --> 00:13:00.470 Broad example,

00:13:00.470 --> 00:13:02.720 most common examples of those that

00:13:02.720 --> 00:13:04.729 are approached by surgery and then

00:13:04.729 --> 00:13:06.523 talked briefly at the end about

00:13:06.584 --> 00:13:08.594 what role surgery can play in

00:13:08.594 --> 00:13:10.022 metastatic under under consumer.

00:13:10.022 --> 00:13:11.842 So just starting with pancreatic

00:13:11.842 --> 00:13:13.200 nor under consumers,

00:13:13.200 --> 00:13:14.660 as mentioned by Doctor Kunz,

00:13:14.660 --> 00:13:16.921 you know the the biggest top level

00:13:16.921 --> 00:13:18.664 classification for pancreatic and under

00:13:18.664 --> 00:13:20.464 consumers is whether they're functional.

00:13:20.470 --> 00:13:21.664 In other words,

00:13:21.664 --> 00:13:23.256 are they secreting hormones?

00:13:23.260 --> 00:13:24.538 And that also tells us not

00:13:24.538 --> 00:13:25.790 only how the symptoms present,

NOTE Confidence: 0.921115924210526

00:13:25.790 --> 00:13:27.902 but also sometimes how they behave and some

NOTE Confidence: 0.921115924210526

00:13:27.902 --> 00:13:30.000 can behave in a more indolent manner like.

NOTE Confidence: 0.921115924210526

00:13:30.000 --> 00:13:32.070 Insulinomas and in the past,

NOTE Confidence: 0.921115924210526

00:13:32.070 --> 00:13:34.025 because virtually everybody with a

NOTE Confidence: 0.921115924210526

00:13:34.025 --> 00:13:35.980 hormone oversecretion would have symptoms.

NOTE Confidence: 0.921115924210526

00:13:35.980 --> 00:13:37.996 This is how people were diagnosed,

NOTE Confidence: 0.921115924210526

00:13:38.000 --> 00:13:40.084 but nowadays non functional

NOTE Confidence: 0.921115924210526

00:13:40.084 --> 00:13:41.647 neurons are consumers.

NOTE Confidence: 0.921115924210526

00:13:41.650 --> 00:13:43.480 Depending on which paper you read

NOTE Confidence: 0.921115924210526

00:13:43.480 --> 00:13:45.485 it can be almost three quarters

NOTE Confidence: 0.921115924210526

00:13:45.485 --> 00:13:47.645 or more of patients these days

NOTE Confidence: 0.921115924210526

00:13:47.645 --> 00:13:49.667 are diagnosed with non functional

NOTE Confidence: 0.921115924210526

00:13:49.667 --> 00:13:51.115 peanuts and they're diagnosed.

NOTE Confidence: 0.921115924210526

00:13:51.115 --> 00:13:52.840 Incidentally they can still have

NOTE Confidence: 0.921115924210526

00:13:52.840 --> 00:13:54.317 symptoms though if that peanut

NOTE Confidence: 0.921115924210526

00:13:54.317 --> 00:13:55.775 is large enough to call paint,

NOTE Confidence: 0.921115924210526

00:13:55.780 --> 00:13:56.680 cause pain,

NOTE Confidence: 0.921115924210526

00:13:56.680 --> 00:13:58.930 nausea or sometimes even jaundice.

NOTE Confidence: 0.921115924210526

00:13:58.930 --> 00:14:00.482 So here's an example of a CAT scan

NOTE Confidence: 0.921115924210526

00:14:00.482 --> 00:14:01.900 and I'm not going to do much.

NOTE Confidence: 0.921115924210526

00:14:01.900 --> 00:14:03.005 Imaging because we have some

NOTE Confidence: 0.921115924210526

00:14:03.005 --> 00:14:04.360 real experts later in the talk,

NOTE Confidence: 0.921115924210526

00:14:04.360 --> 00:14:06.976 but that's a pancreas on the CAT scan.

NOTE Confidence: 0.921115924210526

00:14:06.980 --> 00:14:09.260 If you've never seen one before and

NOTE Confidence: 0.921115924210526

00:14:09.260 --> 00:14:11.500 it's an important tool that we use

NOTE Confidence: 0.921115924210526

00:14:11.500 --> 00:14:14.053 to stage or determine where in the

NOTE Confidence: 0.921115924210526

00:14:14.053 --> 00:14:16.417 spectrum of grade and extent of

NOTE Confidence: 0.921115924210526

00:14:16.417 --> 00:14:18.687 disease each individual patient lies.

NOTE Confidence: 0.921115924210526

00:14:18.690 --> 00:14:20.216 So you know we want to characterize

NOTE Confidence: 0.921115924210526

00:14:20.216 --> 00:14:20.870 the tumor and

NOTE Confidence: 0.886700739545454

00:14:20.916 --> 00:14:22.224 you can see the tumor there

NOTE Confidence: 0.886700739545454

00:14:22.224 --> 00:14:23.409 with the yellow arrow on it.

NOTE Confidence: 0.886700739545454

00:14:23.410 --> 00:14:25.188 It's it's actually very easy to see

NOTE Confidence: 0.886700739545454

00:14:25.188 --> 00:14:27.179 in or under consumers of the pancreas

NOTE Confidence: 0.886700739545454

00:14:27.179 --> 00:14:29.234 because they do take up that Ivy

NOTE Confidence: 0.886700739545454

00:14:29.234 --> 00:14:30.935 contrast so well and are so bright

NOTE Confidence: 0.886700739545454

00:14:30.935 --> 00:14:32.758 and we use some other modalities.

NOTE Confidence: 0.886700739545454

00:14:32.758 --> 00:14:34.126 Including nuclear medicine, MRI,

NOTE Confidence: 0.886700739545454

00:14:34.126 --> 00:14:35.956 and sometimes endoscopy to stage

NOTE Confidence: 0.886700739545454

00:14:35.956 --> 00:14:38.351 and make the diagnosis and also a

NOTE Confidence: 0.886700739545454

00:14:38.351 --> 00:14:40.360 number of blood tests for both tumor

NOTE Confidence: 0.886700739545454

00:14:40.425 --> 00:14:42.320 markers and hormones if needed,

NOTE Confidence: 0.886700739545454

00:14:42.320 --> 00:14:44.216 prior to coming up with a treatment plan.

NOTE Confidence: 0.886700739545454

00:14:44.220 --> 00:14:46.104 Again, all these things can create

NOTE Confidence: 0.886700739545454

00:14:46.104 --> 00:14:47.744 small but sometimes very important

NOTE Confidence: 0.886700739545454

00:14:47.744 --> 00:14:50.054 and critical differences in how we go

00:14:50.054 --> 00:14:51.939 about treating patients with surgery.

00:14:51.940 --> 00:14:53.670 Kind of a theme of the talk is just that.

00:14:53.670 --> 00:14:54.018 Individuality.

00:14:54.018 --> 00:14:56.454 Like I said, if there are metastases,

00:14:56.460 --> 00:14:58.089 I think the good news is and this was

00:14:58.089 --> 00:14:59.614 already alluded to as well is that

00:14:59.614 --> 00:15:01.068 there are treatment options and there

00:15:01.068 --> 00:15:02.694 are many treatment options they're evolving.

00:15:02.700 --> 00:15:03.825 And they're growing,

00:15:03.825 --> 00:15:05.700 and sometimes surgery can be

00:15:05.700 --> 00:15:07.656 used for a localized pancreatic,

00:15:07.656 --> 00:15:10.020 nor under consumer surgery is really

00:15:10.090 --> 00:15:12.250 the primary modality for treatment.

00:15:12.250 --> 00:15:13.418 All functional neuroendocrine tumors.

00:15:13.418 --> 00:15:14.294 In other words,

00:15:14.300 --> 00:15:15.750 those that are secreting hormones,

NOTE Confidence: 0.886700739545454

00:15:15.750 --> 00:15:17.675 should be respected and in in patients

NOTE Confidence: 0.886700739545454

00:15:17.675 --> 00:15:19.604 that are good candidates for surgery

NOTE Confidence: 0.886700739545454

00:15:19.604 --> 00:15:21.349 and patients with non functional

NOTE Confidence: 0.886700739545454

00:15:21.349 --> 00:15:24.011 neuron are consumers of the pancreas if

NOTE Confidence: 0.886700739545454

00:15:24.011 --> 00:15:25.916 they're symptomatic causing those jaundice.

NOTE Confidence: 0.886700739545454

00:15:25.920 --> 00:15:27.656 So domino pain, those kind of things.

NOTE Confidence: 0.886700739545454

00:15:27.660 --> 00:15:31.506 But what about patients with incidentally

NOTE Confidence: 0.886700739545454

00:15:31.506 --> 00:15:33.429 discovered neuroendocrine tumors?

NOTE Confidence: 0.886700739545454

00:15:33.430 --> 00:15:35.460 You know, for localized disease,

NOTE Confidence: 0.886700739545454

00:15:35.460 --> 00:15:36.663 in other words,

NOTE Confidence: 0.886700739545454

00:15:36.663 --> 00:15:37.866 non metastatic disease,

NOTE Confidence: 0.886700739545454

00:15:37.870 --> 00:15:39.964 the biopsy and staging tests can

NOTE Confidence: 0.886700739545454

00:15:39.964 --> 00:15:42.290 really help to guide our behavior.

NOTE Confidence: 0.886700739545454

00:15:42.290 --> 00:15:44.258 So what are some things that could make

NOTE Confidence: 0.886700739545454

00:15:44.258 --> 00:15:46.002 us think that perhaps observation and

NOTE Confidence: 0.886700739545454

00:15:46.002 --> 00:15:48.630 no surgery might be the right way to go

NOTE Confidence: 0.886700739545454

00:15:48.630 --> 00:15:50.202 for a pancreatic nor under consumer?

NOTE Confidence: 0.886700739545454

00:15:50.210 --> 00:15:50.515 Well,

NOTE Confidence: 0.886700739545454

00:15:50.515 --> 00:15:52.955 if we see one of those lower grade

NOTE Confidence: 0.886700739545454

00:15:52.960 --> 00:15:55.347 lymph node or sorry lower grade tumors,

NOTE Confidence: 0.886700739545454

00:15:55.350 --> 00:15:57.331 tumors that have no lymph nodes that

NOTE Confidence: 0.886700739545454

00:15:57.331 --> 00:15:59.153 are enlarged that are suspicious for

NOTE Confidence: 0.886700739545454

00:15:59.153 --> 00:16:01.281 early spread and very small tumor size.

NOTE Confidence: 0.886700739545454

00:16:01.290 --> 00:16:02.745 So it's important to remember

NOTE Confidence: 0.886700739545454

00:16:02.745 --> 00:16:03.618 that all peanuts.

NOTE Confidence: 0.886700739545454

00:16:03.620 --> 00:16:05.360 Do have the potential to grow

NOTE Confidence: 0.886700739545454

00:16:05.360 --> 00:16:07.259 and spread all of them do so.

NOTE Confidence: 0.886700739545454

00:16:07.260 --> 00:16:08.668 They can't be ignored,

NOTE Confidence: 0.886700739545454

00:16:08.668 --> 00:16:11.256 even if they're small or or less worrisome,

NOTE Confidence: 0.886700739545454

00:16:11.256 --> 00:16:14.399 but we do know that for a subset of peanuts,

NOTE Confidence: 0.886700739545454

00:16:14.400 --> 00:16:15.816 the likelihood of spread is very

NOTE Confidence: 0.886700739545454

00:16:15.816 --> 00:16:17.943 low and I just want to touch on this

NOTE Confidence: 0.886700739545454

00:16:17.943 --> 00:16:19.880 because this is an area of controversy.

NOTE Confidence: 0.886700739545454

00:16:19.880 --> 00:16:20.146 Uhm,

NOTE Confidence: 0.886700739545454

00:16:20.146 --> 00:16:22.008 some of the data for this really

NOTE Confidence: 0.886700739545454

00:16:22.008 --> 00:16:23.739 has evolved over the last ten years

NOTE Confidence: 0.886700739545454

00:16:23.739 --> 00:16:25.893 and I just want to show you a few

NOTE Confidence: 0.886700739545454

00:16:25.893 --> 00:16:27.530 quick studies so you know one of

NOTE Confidence: 0.886700739545454

00:16:27.530 --> 00:16:28.930 the earlier ones came out of the

NOTE Confidence: 0.886700739545454

00:16:28.930 --> 00:16:30.296 Mayo Clinic and they looked at

NOTE Confidence: 0.886700739545454

00:16:30.296 --> 00:16:31.676 patients with tumors that were less

NOTE Confidence: 0.886700739545454

00:16:31.719 --> 00:16:32.869 than 4 centimeters in size.

NOTE Confidence: 0.886700739545454

00:16:32.870 --> 00:16:34.328 And this was a single hospital.

NOTE Confidence: 0.886700739545454

00:16:34.330 --> 00:16:35.173 Very small series,

NOTE Confidence: 0.886700739545454

00:16:35.173 --> 00:16:36.859 but it got everybody talking because

NOTE Confidence: 0.886700739545454

00:16:36.859 --> 00:16:38.695 it seemed to suggest that small tumors

NOTE Confidence: 0.886700739545454

00:16:38.695 --> 00:16:40.578 did just as well as larger tumors.

NOTE Confidence: 0.886700739545454

00:16:40.580 --> 00:16:43.107 If they had a resection or not.

NOTE Confidence: 0.886700739545454

00:16:43.110 --> 00:16:43.571 However,

NOTE Confidence: 0.886700739545454

00:16:43.571 --> 00:16:45.876 using even more restrictive criteria,

NOTE Confidence: 0.886700739545454

00:16:45.880 --> 00:16:47.584 a study out of Duke a few years

NOTE Confidence: 0.886700739545454

00:16:47.584 --> 00:16:48.690 later showed that patients

NOTE Confidence: 0.886700739545454

00:16:48.690 --> 00:16:49.950 that didn't have surgery.

NOTE Confidence: 0.886700739545454

00:16:49.950 --> 00:16:52.458 At a 50% worse survival than

NOTE Confidence: 0.886700739545454

00:16:52.458 --> 00:16:54.130 patients that were observed,

NOTE Confidence: 0.972940644

00:16:54.130 --> 00:16:55.790 it's really hard to reconcile

NOTE Confidence: 0.972940644

00:16:55.790 --> 00:16:57.450 those two pieces of data.

NOTE Confidence: 0.972940644

00:16:57.450 --> 00:16:59.238 A study from our institution looked

NOTE Confidence: 0.972940644

00:16:59.238 --> 00:17:00.810 at very small neuroendocrine tumors,

NOTE Confidence: 0.972940644

00:17:00.810 --> 00:17:02.778 tumors in a national database study

NOTE Confidence: 0.972940644

00:17:02.778 --> 00:17:05.230 and it showed that for very small

NOTE Confidence: 0.972940644

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00:17:05.230 --> 00:17:07.015 tumors those under a centimeter,

NOTE Confidence: 0.972940644

00:17:07.020 --> 00:17:09.708 95% of patients were alive at 10 years,

NOTE Confidence: 0.972940644

00:17:09.710 --> 00:17:11.666 although some did develop lymph node

NOTE Confidence: 0.972940644

00:17:11.666 --> 00:17:13.410 spread and ultimately underwent surgery.

NOTE Confidence: 0.972940644

00:17:13.410 --> 00:17:14.736 So probably the best study came

NOTE Confidence: 0.972940644

00:17:14.736 --> 00:17:16.604 out in New York, where they looked

NOTE Confidence: 0.972940644

00:17:16.604 --> 00:17:18.301 at small tumors over four years,

NOTE Confidence: 0.972940644

00:17:18.301 --> 00:17:20.027 and this was a single institution, but.

NOTE Confidence: 0.972940644

00:17:20.027 --> 00:17:21.809 A very well controlled study and

NOTE Confidence: 0.972940644

00:17:21.809 --> 00:17:23.822 basically what it told us is that

NOTE Confidence: 0.972940644

00:17:23.822 --> 00:17:25.147 for small tumors the outcomes

NOTE Confidence: 0.972940644

00:17:25.147 --> 00:17:27.040 are the same if they're observed,

NOTE Confidence: 0.972940644

00:17:27.040 --> 00:17:28.744 but some of them will progress

NOTE Confidence: 0.972940644

00:17:28.744 --> 00:17:29.880 to needing a reception,

NOTE Confidence: 0.972940644

00:17:29.880 --> 00:17:31.878 so it's really important to watch,

NOTE Confidence: 0.972940644

00:17:31.880 --> 00:17:34.256 so the take home point from

NOTE Confidence: 0.972940644

00:17:34.256 --> 00:17:35.444 a surgeon standpoint.

NOTE Confidence: 0.972940644

00:17:35.450 --> 00:17:36.985 Are there pancreatic near under

NOTE Confidence: 0.972940644

00:17:36.985 --> 00:17:39.000 consumers that are safe to observe?

NOTE Confidence: 0.972940644

00:17:39.000 --> 00:17:41.460 Yes, but who are those candidates?

NOTE Confidence: 0.972940644

00:17:41.460 --> 00:17:42.666 So First off, like I said,

NOTE Confidence: 0.972940644

00:17:42.670 --> 00:17:44.416 they can't have any hormone hypersecretion

NOTE Confidence: 0.972940644

00:17:44.416 --> 00:17:46.260 they've got to be asymptomatic.

NOTE Confidence: 0.972940644

00:17:46.260 --> 00:17:48.540 No evidence of lymph nodes spread

NOTE Confidence: 0.972940644

00:17:48.540 --> 00:17:50.060 that very well differentiated

NOTE Confidence: 0.972940644

00:17:50.122 --> 00:17:51.510 or low grade pathology.

NOTE Confidence: 0.972940644

00:17:51.510 --> 00:17:52.599 A small tumor,

NOTE Confidence: 0.972940644

00:17:52.599 --> 00:17:54.414 and then most importantly they're

NOTE Confidence: 0.972940644

00:17:54.414 --> 00:17:56.565 amenable to follow up because we

NOTE Confidence: 0.972940644

00:17:56.565 --> 00:17:58.260 have seen patients that because

NOTE Confidence: 0.972940644

00:17:58.260 --> 00:18:00.060 the follow up has been LAX,

NOTE Confidence: 0.972940644

00:18:00.060 --> 00:18:01.504 have progressed and ultimately

NOTE Confidence: 0.972940644

00:18:01.504 --> 00:18:02.587 have tumor spread,

NOTE Confidence: 0.972940644

00:18:02.590 --> 00:18:05.668 that might have been resectable at

NOTE Confidence: 0.972940644

00:18:05.668 --> 00:18:08.500 one point and potentially curable.

NOTE Confidence: 0.972940644

00:18:08.500 --> 00:18:10.822 So what do we for patients that do need

NOTE Confidence: 0.972940644

00:18:10.822 --> 00:18:12.837 surgery that don't meet those criteria?

NOTE Confidence: 0.972940644

00:18:12.840 --> 00:18:13.616 What are our goals?

NOTE Confidence: 0.972940644

00:18:13.616 --> 00:18:15.150 So we want to maximize local control.

NOTE Confidence: 0.972940644

00:18:15.150 --> 00:18:16.142 What does that mean?

NOTE Confidence: 0.972940644

00:18:16.142 --> 00:18:17.981 We want to remove the lymph nodes

NOTE Confidence: 0.972940644

00:18:17.981 --> 00:18:19.431 around the pancreas because we

NOTE Confidence: 0.972940644

00:18:19.431 --> 00:18:21.238 know that the lymph nodes are

NOTE Confidence: 0.972940644

00:18:21.238 --> 00:18:22.718 frequent spot of early spread.

NOTE Confidence: 0.972940644

00:18:22.720 --> 00:18:22.915 Also,

NOTE Confidence: 0.972940644

00:18:22.915 --> 00:18:24.475 we want to get in our zero section

NOTE Confidence: 0.972940644

00:18:24.475 --> 00:18:26.265 or one with negative margins and we

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NOTE Confidence: 0.972940644

00:18:26.265 --> 00:18:27.645 want to improve patients quality

NOTE Confidence: 0.972940644

00:18:27.645 --> 00:18:29.120 of life if they're symptomatic.

NOTE Confidence: 0.972940644

00:18:29.120 --> 00:18:31.178 And of course we want to minimize

NOTE Confidence: 0.972940644

00:18:31.178 --> 00:18:32.540 any complications from surgery.

NOTE Confidence: 0.972940644

00:18:32.540 --> 00:18:35.195 So how do we pick what operation to do?

NOTE Confidence: 0.972940644

00:18:35.200 --> 00:18:37.216 The tumor location is very important,

NOTE Confidence: 0.972940644

00:18:37.220 --> 00:18:38.724 whether or not it needs the lymph nodes.

NOTE Confidence: 0.972940644

00:18:38.730 --> 00:18:41.094 Removed is also very important and

NOTE Confidence: 0.972940644

00:18:41.094 --> 00:18:43.710 patient preference is also considered two,

NOTE Confidence: 0.972940644

00:18:43.710 --> 00:18:45.822 so enucleation is a technique that

NOTE Confidence: 0.972940644

00:18:45.822 --> 00:18:48.068 really just removes the tumor from

NOTE Confidence: 0.972940644

00:18:48.068 --> 00:18:50.396 the pancreas without removing much of

NOTE Confidence: 0.972940644

00:18:50.396 --> 00:18:52.329 the surrounding pancreatic tissue.

NOTE Confidence: 0.972940644

00:18:52.330 --> 00:18:53.546 Now that sounds great,

NOTE Confidence: 0.972940644

00:18:53.546 --> 00:18:55.370 but not all pancreatic neuron or

NOTE Confidence: 0.972940644

00:18:55.428 --> 00:18:57.528 consumers are amenable to this really.

NOTE Confidence: 0.972940644

00:18:57.530 --> 00:19:00.098 Only very small or very benign

NOTE Confidence: 0.972940644

00:19:00.098 --> 00:19:02.286 behaving tumors like insulinomas are

NOTE Confidence: 0.972940644

00:19:02.286 --> 00:19:04.377 candidates for this, most or not,

NOTE Confidence: 0.972940644

00:19:04.377 --> 00:19:06.111 and even for those type of

NOTE Confidence: 0.972940644

00:19:06.111 --> 00:19:07.850 reassuring tumors if they're close

NOTE Confidence: 0.972940644

00:19:07.850 --> 00:19:09.238 to this pancreatic duct.

NOTE Confidence: 0.972940644

00:19:09.240 --> 00:19:11.175 Here the complication rate goes

NOTE Confidence: 0.972940644

00:19:11.175 --> 00:19:13.980 very high if that duct is injured,

NOTE Confidence: 0.972940644

00:19:13.980 --> 00:19:15.821 so it's really a small number of

NOTE Confidence: 0.972940644

00:19:15.821 --> 00:19:17.618 patients that are candidates for it,

NOTE Confidence: 0.972940644

00:19:17.620 --> 00:19:19.608 and there's going to be some pictures

NOTE Confidence: 0.972940644

00:19:19.608 --> 00:19:22.199 now of some pathology and surgical cases,

NOTE Confidence: 0.972940644

00:19:22.200 --> 00:19:23.950 so there's there's the warning,

NOTE Confidence: 0.972940644

00:19:23.950 --> 00:19:25.791 but this is what it looks like

NOTE Confidence: 0.972940644

00:19:25.791 --> 00:19:27.430 after we perform the procedure.

NOTE Confidence: 0.972940644

00:19:27.430 --> 00:19:29.201 You can see the tumor there in

NOTE Confidence: 0.972940644

00:19:29.201 --> 00:19:31.189 the middle and just a little bit

NOTE Confidence: 0.972940644

00:19:31.189 --> 00:19:32.654 of normal pancreas around it.

NOTE Confidence: 0.972940644

00:19:32.660 --> 00:19:34.535 And this was an insulinoma

NOTE Confidence: 0.972940644

00:19:34.535 --> 00:19:35.660 this particular case,

NOTE Confidence: 0.948006250769231

00:19:35.660 --> 00:19:37.711 again, the number of patients that are

NOTE Confidence: 0.948006250769231

00:19:37.711 --> 00:19:39.409 candidates for that is quite small.

NOTE Confidence: 0.948006250769231

00:19:39.410 --> 00:19:42.644 If they are not candidates for enucleation,

NOTE Confidence: 0.948006250769231

00:19:42.650 --> 00:19:44.750 then the position of the tumor within

NOTE Confidence: 0.948006250769231

00:19:44.750 --> 00:19:47.265 the pancreas is really what leads to the

NOTE Confidence: 0.948006250769231

00:19:47.265 --> 00:19:48.822 decision and the big deciding point is

NOTE Confidence: 0.948006250769231

00:19:48.822 --> 00:19:50.588 whether it's in the head of the pancreas,

NOTE Confidence: 0.948006250769231

00:19:50.590 --> 00:19:52.996 in which case the Whipple procedure

NOTE Confidence: 0.948006250769231

00:19:52.996 --> 00:19:54.199 pancreaticoduodenectomy is the

NOTE Confidence: 0.948006250769231

00:19:54.199 --> 00:19:55.918 procedure of choice or the left

NOTE Confidence: 0.948006250769231

00:19:55.918 --> 00:19:57.911 side of the pancreas where a distal

NOTE Confidence: 0.948006250769231

00:19:57.911 --> 00:19:59.927 pancreatectomy is the procedure of choice,

NOTE Confidence: 0.948006250769231

00:19:59.930 --> 00:20:01.990 and sometimes that includes the

NOTE Confidence: 0.948006250769231

00:20:01.990 --> 00:20:04.290 spleen removed along with it,

NOTE Confidence: 0.948006250769231

00:20:04.290 --> 00:20:05.400 and sometimes not.

NOTE Confidence: 0.948006250769231

00:20:05.400 --> 00:20:07.990 So just talking a little bit more

NOTE Confidence: 0.948006250769231

00:20:08.065 --> 00:20:10.060 about distal pancreatectomy.

NOTE Confidence: 0.948006250769231

00:20:10.060 --> 00:20:11.200 It's for its tumor again.

NOTE Confidence: 0.948006250769231

00:20:11.200 --> 00:20:12.694 That's located in the body or

NOTE Confidence: 0.948006250769231

00:20:12.694 --> 00:20:13.690 tail of the pancreas.

NOTE Confidence: 0.948006250769231

00:20:13.690 --> 00:20:15.014 Sometimes it's performed open,

NOTE Confidence: 0.948006250769231

00:20:15.014 --> 00:20:16.669 but many times in fact,

NOTE Confidence: 0.948006250769231

00:20:16.670 --> 00:20:19.274 the vast majority of the time today,

NOTE Confidence: 0.948006250769231

00:20:19.280 --> 00:20:21.080 especially at Yale, we can perform

NOTE Confidence: 0.948006250769231

00:20:21.080 --> 00:20:23.319 it in a minimally invasive fashion.

NOTE Confidence: 0.948006250769231

00:20:23.320 --> 00:20:25.210 If the spleen needs to be removed,

NOTE Confidence: 0.948006250769231

00:20:25.210 --> 00:20:26.938 it's a case by case decision as I said,

NOTE Confidence: 0.948006250769231

00:20:26.940 --> 00:20:28.684 but if it does need to be removed,

NOTE Confidence: 0.948006250769231

00:20:28.690 --> 00:20:30.706 we can compensate for that lack of a

NOTE Confidence: 0.948006250769231

00:20:30.706 --> 00:20:32.821 spleen with vaccinations against a few of

NOTE Confidence: 0.948006250769231

00:20:32.821 --> 00:20:35.009 the organisms that the spleen helps with,

NOTE Confidence: 0.948006250769231

00:20:35.010 --> 00:20:37.806 so it doesn't affect one's life.

NOTE Confidence: 0.948006250769231

00:20:37.810 --> 00:20:40.546 Just a very quick video here.

NOTE Confidence: 0.948006250769231

00:20:40.550 --> 00:20:41.924 Skip the video.

NOTE Confidence: 0.948006250769231

00:20:41.924 --> 00:20:46.029 Very quick video if I can make it work.

NOTE Confidence: 0.948006250769231

00:20:46.030 --> 00:20:47.641 Let's see here.

NOTE Confidence: 0.948006250769231

00:20:47.641 --> 00:20:49.789 I guess I can't.

NOTE Confidence: 0.948006250769231

00:20:49.790 --> 00:20:50.816 I will try one more time.

NOTE Confidence: 0.905001147142857

00:20:55.460 --> 00:20:57.427 Think I have to go in here.

NOTE Confidence: 0.905001147142857

00:20:57.430 --> 00:21:00.320 Here we go. So this is a video of a

NOTE Confidence: 0.905001147142857

00:21:00.411 --> 00:21:03.309 laparoscopic distal pancreatectomy.

NOTE Confidence: 0.905001147142857

00:21:03.310 --> 00:21:04.828 What I'm doing here is elevating

NOTE Confidence: 0.905001147142857

00:21:04.828 --> 00:21:06.147 the stomach and getting into

NOTE Confidence: 0.905001147142857

00:21:06.147 --> 00:21:07.427 what's called the lesser SAC,

NOTE Confidence: 0.905001147142857

00:21:07.430 --> 00:21:09.239 and you can see the tumor is sitting right

NOTE Confidence: 0.905001147142857

00:21:09.239 --> 00:21:10.946 there with the white arrow pointed at it.

NOTE Confidence: 0.905001147142857

00:21:10.950 --> 00:21:12.552 The pancreas is running right and

NOTE Confidence: 0.905001147142857

00:21:12.552 --> 00:21:14.388 left on the bottom of the screen,

NOTE Confidence: 0.905001147142857

00:21:14.390 --> 00:21:16.286 so the first thing we do is mobilize

NOTE Confidence: 0.905001147142857

00:21:16.286 --> 00:21:18.135 and get that tumor elevated and

NOTE Confidence: 0.905001147142857

00:21:18.135 --> 00:21:20.109 completely get the pancreas lifted up

NOTE Confidence: 0.905001147142857

00:21:20.165 --> 00:21:22.262 there so we can see above and below it,

NOTE Confidence: 0.905001147142857

00:21:22.270 --> 00:21:24.529 and in doing that we can access the vessels

NOTE Confidence: 0.905001147142857

00:21:24.529 --> 00:21:26.667 that supply the pancreas and the spleen.

NOTE Confidence: 0.905001147142857

00:21:26.670 --> 00:21:28.098 In this case you see me

NOTE Confidence: 0.905001147142857

00:21:28.098 --> 00:21:29.050 holding the splenic artery.

NOTE Confidence: 0.905001147142857

00:21:29.050 --> 00:21:30.996 They're just about to come around it.

NOTE Confidence: 0.905001147142857

00:21:31.000 --> 00:21:32.950 That splenic artery supplies the spleen,

NOTE Confidence: 0.905001147142857

00:21:32.950 --> 00:21:33.913 and the pancreas.

NOTE Confidence: 0.905001147142857

00:21:33.913 --> 00:21:36.160 It's divided with a vascular stapler and

NOTE Confidence: 0.905001147142857

00:21:36.218 --> 00:21:38.423 then we fully mobilized the pancreas and

NOTE Confidence: 0.905001147142857

00:21:38.423 --> 00:21:40.646 divide it medial to where the tumor is.

NOTE Confidence: 0.905001147142857

00:21:40.650 --> 00:21:43.404 So we make sure we get that negative margin,

NOTE Confidence: 0.905001147142857

00:21:43.410 --> 00:21:45.558 and then once that's all done,

NOTE Confidence: 0.905001147142857

00:21:45.560 --> 00:21:48.210 we just pop it in a little plastic baggie and

NOTE Confidence: 0.905001147142857

00:21:48.278 --> 00:21:50.758 pull it out and that's all there is to it.

NOTE Confidence: 0.905001147142857

00:21:50.760 --> 00:21:51.888 After the surgery,

NOTE Confidence: 0.905001147142857

00:21:51.888 --> 00:21:54.520 just switch back here after the surgery.

NOTE Confidence: 0.905001147142857

00:21:54.520 --> 00:21:55.950 Patients usually go home in

NOTE Confidence: 0.905001147142857

00:21:55.950 --> 00:21:57.380 about three or four days.

NOTE Confidence: 0.905001147142857

00:21:57.380 --> 00:21:59.860 Sorry.

NOTE Confidence: 0.905001147142857

00:21:59.860 --> 00:22:01.126 It was in control of my.

NOTE Confidence: 0.98718965

00:22:03.180 --> 00:22:04.356 Presentation here.

NOTE Confidence: 0.98718965

00:22:04.356 --> 00:22:06.020 Well, suffice to say,

NOTE Confidence: 0.98718965

00:22:06.020 --> 00:22:08.216 they go home in about three

NOTE Confidence: 0.98718965

00:22:08.216 --> 00:22:10.788 or four days if all is well.

NOTE Confidence: 0.98718965

00:22:10.790 --> 00:22:11.609 For Whipple procedure,

NOTE Confidence: 0.98718965

00:22:11.609 --> 00:22:12.974 it's a bit more extensive.

NOTE Confidence: 0.98718965

00:22:12.980 --> 00:22:14.438 Most people are in the hospital

NOTE Confidence: 0.98718965

00:22:14.438 --> 00:22:15.710 about five or six days,

NOTE Confidence: 0.98718965

00:22:15.710 --> 00:22:17.162 and the reason it's more expensive

NOTE Confidence: 0.98718965

00:22:17.162 --> 00:22:18.898 is because the head of the pancreas.

NOTE Confidence: 0.98718965

00:22:18.900 --> 00:22:20.600 If the tumor is there,

NOTE Confidence: 0.98718965

00:22:20.600 --> 00:22:22.225 is unfortunately sharing a blood

NOTE Confidence: 0.98718965

00:22:22.225 --> 00:22:24.290 supply with all these other organs,

NOTE Confidence: 0.98718965

00:22:24.290 --> 00:22:26.940 so it is a bit more of an involved operation,

NOTE Confidence: 0.98718965

00:22:26.940 --> 00:22:28.180 but the remaining pancreas,

NOTE Confidence: 0.98718965

00:22:28.180 --> 00:22:30.040 the bile duct and the stomach

NOTE Confidence: 0.98718965

00:22:30.100 --> 00:22:31.515 are all reconnected and patients

NOTE Confidence: 0.98718965

00:22:31.515 --> 00:22:33.532 are able to eat and go about

NOTE Confidence: 0.98718965

00:22:33.532 --> 00:22:34.902 their their life lifestyle just

NOTE Confidence: 0.98718965

00:22:34.902 --> 00:22:36.558 as they did before the surgery.

NOTE Confidence: 0.98718965

00:22:36.560 --> 00:22:37.388 Once they recover.

NOTE Confidence: 0.98718965

00:22:37.388 --> 00:22:39.320 So a lot of patients ask me

NOTE Confidence: 0.98718965

00:22:39.380 --> 00:22:41.000 is pancreatic surgery safe,

NOTE Confidence: 0.98718965

00:22:41.000 --> 00:22:42.158 especially the Whipple.

NOTE Confidence: 0.98718965

00:22:42.158 --> 00:22:44.088 Procedure and it properly selected

NOTE Confidence: 0.98718965

00:22:44.088 --> 00:22:45.892 patients in properly selected

NOTE Confidence: 0.98718965

00:22:45.892 --> 00:22:47.350 institutions and surgeons.

NOTE Confidence: 0.98718965

00:22:47.350 --> 00:22:49.348 The answer is most definitely yes.

NOTE Confidence: 0.98718965

00:22:49.350 --> 00:22:51.708 So there's a very strong correlation

NOTE Confidence: 0.98718965

00:22:51.708 --> 00:22:53.751 between surgeon volume and also

NOTE Confidence: 0.98718965

00:22:53.751 --> 00:22:55.371 institutional volume for whether

NOTE Confidence: 0.98718965

00:22:55.371 --> 00:22:57.780 or not these procedures are safe.

00:22:57.780 --> 00:22:59.715 The reason that is it's not just the surgeon,

00:22:59.720 --> 00:23:01.420 but it's the nurses.

00:23:01.420 --> 00:23:03.732 It's the radiologist, it's the ICU doctors.

00:23:03.732 --> 00:23:05.756 It's so that if there is a

00:23:05.756 --> 00:23:07.416 complication it's recognized early,

00:23:07.420 --> 00:23:09.712 treated successfully and the patient is

00:23:09.712 --> 00:23:12.149 still discharged with a great outcome.

00:23:12.150 --> 00:23:13.710 So just for some examples,

00:23:13.710 --> 00:23:16.370 before COVID for five years at Yale,

00:23:16.370 --> 00:23:19.778 we were doing annually about 85 cases a

00:23:19.778 --> 00:23:23.255 year between the four surgeons that do them,

00:23:23.260 --> 00:23:26.900 which is an extremely high volume center.

00:23:26.900 --> 00:23:28.586 Just so you have some statistics,

00:23:28.590 --> 00:23:29.961 you know historically.

00:23:29.961 --> 00:23:32.246 The mortality for Whipple procedure,

NOTE Confidence: 0.98718965

00:23:32.250 --> 00:23:34.138 the length of stay was very long and

NOTE Confidence: 0.98718965

00:23:34.138 --> 00:23:35.510 the complication rate was very high,

NOTE Confidence: 0.98718965

00:23:35.510 --> 00:23:36.932 which is why it's still a

NOTE Confidence: 0.98718965

00:23:36.932 --> 00:23:37.643 very daunting operation.

NOTE Confidence: 0.98718965

00:23:37.650 --> 00:23:38.926 But nowadays,

NOTE Confidence: 0.98718965

00:23:38.926 --> 00:23:40.840 especially at Yale,

NOTE Confidence: 0.98718965

00:23:40.840 --> 00:23:43.108 it's a very safe operation and our

NOTE Confidence: 0.98718965

00:23:43.108 --> 00:23:44.810 outcomes in national databases are

NOTE Confidence: 0.98718965

00:23:44.810 --> 00:23:47.148 in the top ten percentile the nation.

NOTE Confidence: 0.98718965

00:23:47.150 --> 00:23:48.782 So just to summarize,

NOTE Confidence: 0.98718965

00:23:48.782 --> 00:23:50.006 like I said,

NOTE Confidence: 0.98718965

00:23:50.010 --> 00:23:51.277 the goals of the surgery are not

NOTE Confidence: 0.98718965

00:23:51.277 --> 00:23:52.310 just to control the disease,

NOTE Confidence: 0.98718965

00:23:52.310 --> 00:23:54.361 but improve the quality of life while

NOTE Confidence: 0.98718965

00:23:54.361 --> 00:23:56.120 minimizing the possibility for complications.

NOTE Confidence: 0.98718965

00:23:56.120 --> 00:23:58.320 There's those three major operations,

NOTE Confidence: 0.98718965

00:23:58.320 --> 00:23:59.690 and the choice of operation

NOTE Confidence: 0.98718965

00:23:59.690 --> 00:24:00.786 is largely dictated by.

NOTE Confidence: 0.98718965

00:24:00.790 --> 00:24:03.198 Where the tumor is and the outcomes are

NOTE Confidence: 0.98718965

00:24:03.198 --> 00:24:05.418 excellent when done at high volume centers.

NOTE Confidence: 0.98718965

00:24:05.420 --> 00:24:06.268 Just switching gears for

NOTE Confidence: 0.98718965

00:24:06.268 --> 00:24:07.328 the last minute or two,

NOTE Confidence: 0.98718965

00:24:07.330 --> 00:24:09.211 I want to talk about enteric

NOTE Confidence: 0.98718965

00:24:09.211 --> 00:24:10.084 neuron or consumers.

NOTE Confidence: 0.98718965

00:24:10.084 --> 00:24:12.710 Those in the bowel as Doctor Kunz alluded to.

NOTE Confidence: 0.98718965

00:24:12.710 --> 00:24:14.540 They can really arise anywhere,

NOTE Confidence: 0.98718965

00:24:14.540 --> 00:24:15.320 just as an example,

NOTE Confidence: 0.98718965

00:24:15.320 --> 00:24:17.020 because it's one of the more common ones.

NOTE Confidence: 0.98718965

00:24:17.020 --> 00:24:18.324 We'll talk about those

NOTE Confidence: 0.98718965

00:24:18.324 --> 00:24:19.628 to the small intestine.

NOTE Confidence: 0.98718965

00:24:19.630 --> 00:24:21.130 It's actually been the most

NOTE Confidence: 0.98718965

00:24:21.130 --> 00:24:22.630 common tumor because of the

NOTE Confidence: 0.98718965

00:24:22.694 --> 00:24:24.390 incidental findings since 2000.

NOTE Confidence: 0.98718965

00:24:24.390 --> 00:24:26.182 In the small intestine,

NOTE Confidence: 0.98718965

00:24:26.182 --> 00:24:28.904 only about 25 to 40% of

NOTE Confidence: 0.98718965

00:24:28.904 --> 00:24:30.800 patients present with symptoms.

NOTE Confidence: 0.98718965

00:24:30.800 --> 00:24:32.210 Uhm?

NOTE Confidence: 0.98718965

00:24:32.210 --> 00:24:33.608 You can see some obstructed bowel

NOTE Confidence: 0.98718965

00:24:33.608 --> 00:24:35.570 here on the left with the tumor there.

NOTE Confidence: 0.98718965

00:24:35.570 --> 00:24:38.180 And this is something called an

NOTE Confidence: 0.98718965

00:24:38.180 --> 00:24:39.920 intussusception where the bowel

NOTE Confidence: 0.98718965

00:24:39.989 --> 00:24:42.101 gets sort of inserted on itself

NOTE Confidence: 0.98718965

00:24:42.101 --> 00:24:44.115 and it also creates discomfort

NOTE Confidence: 0.98718965

00:24:44.115 --> 00:24:45.720 and and obstruction.

NOTE Confidence: 0.98718965

00:24:45.720 --> 00:24:47.235 But most are diagnosed incidentally

NOTE Confidence: 0.98718965

00:24:47.235 --> 00:24:48.750 because there's a very high

NOTE Confidence: 0.98718965

00:24:48.798 --> 00:24:50.213 incidence of lymph nodes spread

NOTE Confidence: 0.98718965

00:24:50.213 --> 00:24:51.628 into the mesentery and this

NOTE Confidence: 0.907833103333333

00:24:51.684 --> 00:24:53.700 mesentery is the structure where the blood

NOTE Confidence: 0.907833103333333

00:24:53.700 --> 00:24:56.460 vessels and lymph nodes run to the intestine.

NOTE Confidence: 0.907833103333333

00:24:56.460 --> 00:24:57.310 So what does that mean?

NOTE Confidence: 0.907833103333333

00:24:57.310 --> 00:24:59.290 We do the same kind of staging work up,

NOTE Confidence: 0.907833103333333

00:24:59.290 --> 00:25:01.306 but what we oftentimes see these lymph nodes

NOTE Confidence: 0.907833103333333

00:25:01.306 --> 00:25:03.747 in the mesentery and sometimes they're small.

NOTE Confidence: 0.907833103333333

00:25:03.750 --> 00:25:06.541 Like that sometimes a little bigger and

NOTE Confidence: 0.907833103333333

00:25:06.541 --> 00:25:08.858 sometimes quite large and they can be

NOTE Confidence: 0.907833103333333

00:25:08.858 --> 00:25:11.299 involving some of these major blood vessels.

NOTE Confidence: 0.907833103333333

00:25:11.300 --> 00:25:13.037 So when we take patients to the ER for

NOTE Confidence: 0.907833103333333

00:25:13.037 --> 00:25:14.715 a small bowel, nor under consumer,

NOTE Confidence: 0.907833103333333

00:25:14.715 --> 00:25:17.569 our goal is again to clear the primary tumor.

NOTE Confidence: 0.907833103333333

00:25:17.570 --> 00:25:19.446 But an important point is that many,

NOTE Confidence: 0.907833103333333

00:25:19.450 --> 00:25:22.024 many, many patients up to a

50

NOTE Confidence: 0.907833103333333

00:25:22.024 --> 00:25:23.740 third have multiple tumors.

NOTE Confidence: 0.907833103333333

00:25:23.740 --> 00:25:25.724 So if we use a minimally invasive approach,

NOTE Confidence: 0.907833103333333

00:25:25.730 --> 00:25:26.696 which we do when we can,

NOTE Confidence: 0.907833103333333

00:25:26.700 --> 00:25:29.087 we have to inspect the entire bowel.

NOTE Confidence: 0.907833103333333

00:25:29.090 --> 00:25:31.700 We also want to clear all those lymph nodes.

NOTE Confidence: 0.907833103333333

00:25:31.700 --> 00:25:34.185 And again we want to minimize complications.

NOTE Confidence: 0.907833103333333

00:25:34.190 --> 00:25:36.485 So in the last few slides just showing it.

NOTE Confidence: 0.907833103333333

00:25:36.490 --> 00:25:38.368 So when I talk about multifocality,

NOTE Confidence: 0.907833103333333

00:25:38.370 --> 00:25:39.828 here's a length of intestine and

NOTE Confidence: 0.907833103333333

00:25:39.828 --> 00:25:41.463 here you can see five separate

NOTE Confidence: 0.907833103333333

00:25:41.463 --> 00:25:43.287 tumors in that length of intestine.

NOTE Confidence: 0.907833103333333

00:25:43.290 --> 00:25:45.208 So when we do do the operation,

NOTE Confidence: 0.907833103333333

00:25:45.210 --> 00:25:45.876 minimally invasively,

NOTE Confidence: 0.907833103333333

00:25:45.876 --> 00:25:48.540 we use some tricks like this sleeve here

NOTE Confidence: 0.907833103333333

00:25:48.594 --> 00:25:50.698 this plastic sleeve to allow us to take

NOTE Confidence: 0.907833103333333

51

00:25:50.698 --> 00:25:52.761 the bowel out of the body and inspect

NOTE Confidence: 0.907833103333333

00:25:52.761 --> 00:25:54.818 it with still very small incisions and

NOTE Confidence: 0.907833103333333

00:25:54.818 --> 00:25:56.598 when there is mesenteric involvement

NOTE Confidence: 0.907833103333333

00:25:56.598 --> 00:25:59.067 on the major blood vessels like this,

NOTE Confidence: 0.907833103333333

00:25:59.070 --> 00:26:01.289 we sometimes have to do very careful

NOTE Confidence: 0.907833103333333

00:26:01.289 --> 00:26:03.285 dissections to remove a big portion

NOTE Confidence: 0.907833103333333

00:26:03.285 --> 00:26:04.925 of the mesentery while preserving.

NOTE Confidence: 0.907833103333333

00:26:04.930 --> 00:26:06.480 Those large arteries and veins,

NOTE Confidence: 0.907833103333333

00:26:06.480 --> 00:26:09.126 and here's just a few operative

NOTE Confidence: 0.907833103333333

00:26:09.126 --> 00:26:10.810 photographs and then the last slide.

NOTE Confidence: 0.907833103333333

00:26:10.810 --> 00:26:12.808 I just want to talk about

NOTE Confidence: 0.907833103333333

00:26:12.808 --> 00:26:14.140 surgery and metastatic disease,

NOTE Confidence: 0.907833103333333

00:26:14.140 --> 00:26:16.716 so sometimes surgery is the right answer

NOTE Confidence: 0.907833103333333

00:26:16.716 --> 00:26:19.090 for patients with metastatic disease.

NOTE Confidence: 0.907833103333333

00:26:19.090 --> 00:26:19.494 Generally,

NOTE Confidence: 0.907833103333333

00:26:19.494 --> 00:26:22.322 if the vast majority can be removed

NOTE Confidence: 0.907833103333333

00:26:22.322 --> 00:26:24.908 or sometimes all of it can be removed.

NOTE Confidence: 0.907833103333333

00:26:24.910 --> 00:26:25.270 Again,

NOTE Confidence: 0.907833103333333

00:26:25.270 --> 00:26:27.430 this can sometimes be done laparoscopically.

NOTE Confidence: 0.907833103333333

00:26:27.430 --> 00:26:29.190 Lee.

NOTE Confidence: 0.907833103333333

00:26:29.190 --> 00:26:30.642 And we can do this through

NOTE Confidence: 0.907833103333333

00:26:30.642 --> 00:26:31.368 fairly small incisions.

NOTE Confidence: 0.907833103333333

00:26:31.370 --> 00:26:32.870 Here's that piece of liver

NOTE Confidence: 0.907833103333333

00:26:32.870 --> 00:26:34.070 after it's been resected.

NOTE Confidence: 0.907833103333333

00:26:34.070 --> 00:26:35.542 So just in closing,

NOTE Confidence: 0.907833103333333

00:26:35.542 --> 00:26:36.646 like I said,

NOTE Confidence: 0.907833103333333

00:26:36.650 --> 00:26:38.115 patients really need to be

NOTE Confidence: 0.907833103333333

00:26:38.115 --> 00:26:39.580 managed on an individual level

NOTE Confidence: 0.907833103333333

00:26:39.640 --> 00:26:41.290 because there's so much nuanced.

NOTE Confidence: 0.907833103333333

00:26:41.290 --> 00:26:42.700 It's important to be at

NOTE Confidence: 0.907833103333333

00:26:42.700 --> 00:26:43.546 an experienced center,

NOTE Confidence: 0.907833103333333

00:26:43.550 --> 00:26:45.260 and the key considerations for the

NOTE Confidence: 0.907833103333333

00:26:45.260 --> 00:26:47.118 surgery is making sure all of the

NOTE Confidence: 0.907833103333333

00:26:47.118 --> 00:26:48.658 tumors and all of the lymph nodes

NOTE Confidence: 0.907833103333333

00:26:48.715 --> 00:26:50.470 are removed and carefully selected.

NOTE Confidence: 0.907833103333333

00:26:50.470 --> 00:26:52.384 Patients can still get a benefit

NOTE Confidence: 0.907833103333333

00:26:52.384 --> 00:26:54.150 even if there's metastatic disease.

NOTE Confidence: 0.907833103333333

00:26:54.150 --> 00:26:57.150 So last slide with just my partners in

NOTE Confidence: 0.907833103333333

00:26:57.150 --> 00:26:59.520 surgical oncology and our research staff.

NOTE Confidence: 0.907833103333333

00:26:59.520 --> 00:27:01.592 And I'll end it there and stick around

NOTE Confidence: 0.907833103333333

00:27:01.592 --> 00:27:03.638 for any questions at the very end,

NOTE Confidence: 0.907833103333333

00:27:03.640 --> 00:27:05.180 so I'll stop my sharing.

NOTE Confidence: 0.525616

00:27:08.770 --> 00:27:10.356 After constant thanks so much,

NOTE Confidence: 0.525616

00:27:10.356 --> 00:27:12.300 we're going to do questions all

NOTE Confidence: 0.862950165384615

00:27:12.363 --> 00:27:15.550 at the end, so Dr Madoff will join,

NOTE Confidence: 0.862950165384615

00:27:15.550 --> 00:27:17.794 and I'll just remind everybody to

NOTE Confidence: 0.862950165384615

00:27:17.794 --> 00:27:20.017 please put questions in the Q&A

NOTE Confidence: 0.862950165384615

00:27:20.017 --> 00:27:21.985 we're aiming for about 45 minutes

NOTE Confidence: 0.862950165384615

00:27:21.985 --> 00:27:23.960 total of some presentations,

NOTE Confidence: 0.862950165384615

00:27:23.960 --> 00:27:25.385 and then we'll leave plenty

NOTE Confidence: 0.862950165384615

00:27:25.385 --> 00:27:26.525 of time for questions.

NOTE Confidence: 0.862950165384615

00:27:26.530 --> 00:27:27.370 Thanks, doctor medical.

NOTE Confidence: 0.8247813875

00:27:28.500 --> 00:27:32.025 OK, so if when you see my slides, yes,

NOTE Confidence: 0.8247813875

00:27:32.025 --> 00:27:35.393 perfect. OK, great, so first I'd like to

NOTE Confidence: 0.8247813875

00:27:35.393 --> 00:27:38.539 thank you Doctor Kunz and the Center for

NOTE Confidence: 0.8247813875

00:27:38.539 --> 00:27:41.270 GI cancers at Smiley Cancer Hospital.

NOTE Confidence: 0.8247813875

00:27:41.270 --> 00:27:42.978 For inviting me to speak tonight on

NOTE Confidence: 0.8247813875

00:27:42.978 --> 00:27:45.101 the topic of liver directed therapies

NOTE Confidence: 0.8247813875

00:27:45.101 --> 00:27:46.877 for neuroendocrine liver metastases.

NOTE Confidence: 0.8247813875

00:27:46.880 --> 00:27:48.609 As you've already heard from both doctors,

NOTE Confidence: 0.8247813875

00:27:48.610 --> 00:27:50.871 spoons, and kinsmen, there are now many

NOTE Confidence: 0.8247813875

00:27:50.871 --> 00:27:52.820 surgical and medical options for this.

NOTE Confidence: 0.8247813875

00:27:52.820 --> 00:27:56.300 Typically slow growing group of diseases,

NOTE Confidence: 0.8247813875

00:27:56.300 --> 00:27:58.356 so the reason why I am speaking tonight

NOTE Confidence: 0.8247813875

00:27:58.356 --> 00:28:00.190 is that despite these advances,

NOTE Confidence: 0.8247813875

00:28:00.190 --> 00:28:00.886 the literature,

NOTE Confidence: 0.8247813875

00:28:00.886 --> 00:28:03.322 including this study from Doctor James Yao

NOTE Confidence: 0.8247813875

00:28:03.322 --> 00:28:06.080 at the MD Anderson Cancer Center in Houston,

NOTE Confidence: 0.8247813875

00:28:06.080 --> 00:28:08.120 and our own clinical experience,

NOTE Confidence: 0.8247813875

00:28:08.120 --> 00:28:10.250 has shown that the poorest

NOTE Confidence: 0.8247813875

00:28:10.250 --> 00:28:11.954 prognostic variable is involvement.

NOTE Confidence: 0.8247813875

00:28:11.960 --> 00:28:14.870 Of tumors within the liver.

NOTE Confidence: 0.8247813875

00:28:14.870 --> 00:28:16.767 Therefore, I'm here to introduce you to

NOTE Confidence: 0.8247813875

00:28:16.767 --> 00:28:18.940 the field of interventional radiology,

NOTE Confidence: 0.8247813875

00:28:18.940 --> 00:28:21.092 and even more specifically

NOTE Confidence: 0.8247813875

00:28:21.092 --> 00:28:22.168 interventional oncology,

NOTE Confidence: 0.8247813875

00:28:22.170 --> 00:28:24.234 which has been used for a few decades.

NOTE Confidence: 0.8247813875

00:28:24.240 --> 00:28:25.950 In the armamentarium treat patients

NOTE Confidence: 0.8247813875

00:28:25.950 --> 00:28:27.904 in new endocrine, liver metastases,

NOTE Confidence: 0.8247813875

00:28:27.904 --> 00:28:28.828 interventional oncology,

NOTE Confidence: 0.8247813875

00:28:28.828 --> 00:28:32.777 or we now call IO is a subspecialty

NOTE Confidence: 0.8247813875

00:28:32.777 --> 00:28:35.527 of radiology that utilizes minimally

NOTE Confidence: 0.8247813875

00:28:35.527 --> 00:28:37.925 invasive procedures to diagnose and treat

NOTE Confidence: 0.8247813875

00:28:37.925 --> 00:28:40.240 patients with various forms of cancer.

NOTE Confidence: 0.8247813875

00:28:40.240 --> 00:28:42.459 The benefits of IO treatments are many.

NOTE Confidence: 0.8247813875

00:28:42.460 --> 00:28:44.623 Our procedures are mostly done in the

NOTE Confidence: 0.8247813875

00:28:44.623 --> 00:28:46.649 outpatient setting are often done with

NOTE Confidence: 0.8247813875

00:28:46.649 --> 00:28:48.389 moderate sedation or local anesthetic,

NOTE Confidence: 0.8247813875

00:28:48.390 --> 00:28:51.134 and without the need for general anesthesia.

NOTE Confidence: 0.8247813875

00:28:51.140 --> 00:28:54.437 There is no surgical incision and instead

NOTE Confidence: 0.8247813875

00:28:54.437 --> 00:28:57.190 we operate through small pin holes,

NOTE Confidence: 0.8247813875

00:28:57.190 --> 00:28:59.470 which usually leave no scar.

NOTE Confidence: 0.8247813875

00:28:59.470 --> 00:29:01.750 The procedures usually result in

NOTE Confidence: 0.8247813875

00:29:01.750 --> 00:29:04.030 immediate tumor death are minimally

NOTE Confidence: 0.8247813875

00:29:04.098 --> 00:29:06.588 invasive with being both cost and

NOTE Confidence: 0.8247813875

00:29:06.588 --> 00:29:09.105 time effective and hopefully lead to

NOTE Confidence: 0.8247813875

00:29:09.105 --> 00:29:10.930 a gentle patient experience because

NOTE Confidence: 0.8247813875

00:29:10.930 --> 00:29:12.490 they are done with image guidance.

NOTE Confidence: 0.8247813875

00:29:12.490 --> 00:29:14.095 They're very accurate with reduced

NOTE Confidence: 0.8247813875

00:29:14.095 --> 00:29:16.074 risk of trauma to adjacent organs

NOTE Confidence: 0.8247813875

00:29:16.074 --> 00:29:17.679 or structures and have minimal

NOTE Confidence: 0.8247813875

00:29:17.679 --> 00:29:19.556 side effects that often lead to

NOTE Confidence: 0.8247813875

00:29:19.556 --> 00:29:20.906 an improved quality of life.

NOTE Confidence: 0.8247813875

00:29:20.910 --> 00:29:24.050 And Please note that interventional

NOTE Confidence: 0.8247813875

00:29:24.050 --> 00:29:27.190 oncology is not radiation oncology.

NOTE Confidence: 0.8247813875

00:29:27.190 --> 00:29:28.614 Fact Interventional Oncology is

NOTE Confidence: 0.8247813875

00:29:28.614 --> 00:29:30.394 now become the fourth pillar

NOTE Confidence: 0.8247813875

00:29:30.394 --> 00:29:32.230 of oncology joining medical,

NOTE Confidence: 0.8247813875

00:29:32.230 --> 00:29:34.238 surgical and radiation oncology.

NOTE Confidence: 0.8247813875

00:29:34.238 --> 00:29:36.748 IO therapies are now incorporated

NOTE Confidence: 0.8247813875

00:29:36.748 --> 00:29:39.089 into multiple NCCN guidelines.

NOTE Confidence: 0.8247813875

00:29:39.090 --> 00:29:41.309 We are valued participants in many tumor

NOTE Confidence: 0.8247813875

00:29:41.309 --> 00:29:43.330 boards and we offer clinical trials

NOTE Confidence: 0.8247813875

00:29:43.330 --> 00:29:45.675 that can further define the role of

NOTE Confidence: 0.8247813875

00:29:45.737 --> 00:29:48.089 these treatments in overall cancer care.

NOTE Confidence: 0.8247813875

00:29:48.090 --> 00:29:50.130 So there are multiple ways that

NOTE Confidence: 0.8247813875

00:29:50.130 --> 00:29:51.968 intervention oncology can get involved

NOTE Confidence: 0.8247813875

00:29:51.968 --> 00:29:54.476 in the management of patients with

NOTE Confidence: 0.8247813875

00:29:54.476 --> 00:29:56.193 neuroendocrine liver metastases and

NOTE Confidence: 0.8247813875

00:29:56.193 --> 00:29:57.797 includes diagnosis with pertanian

NOTE Confidence: 0.8247813875

00:29:57.797 --> 00:29:59.802 image guided biopsy and treatments

NOTE Confidence: 0.8247813875

00:29:59.810 --> 00:30:01.614 which include primary adjutant

NOTE Confidence: 0.8247813875

00:30:01.614 --> 00:30:03.418 in neoadjuvant tumor therapy,

NOTE Confidence: 0.8247813875

00:30:03.420 --> 00:30:05.679 postoperative complication management,

NOTE Confidence: 0.8247813875

59

00:30:05.679 --> 00:30:08.598 central venous access palliation,

NOTE Confidence: 0.8247813875

00:30:08.598 --> 00:30:10.572 and many others.

NOTE Confidence: 0.8247813875

00:30:10.572 --> 00:30:11.888 So percutaneous.

NOTE Confidence: 0.8247813875

00:30:11.890 --> 00:30:14.046 Image guided biopsy is now the standard

NOTE Confidence: 0.8247813875

00:30:14.046 --> 00:30:16.089 procedure for most non palpable masses,

NOTE Confidence: 0.8247813875

00:30:16.090 --> 00:30:18.470 allowing us to obtain diagnosis.

NOTE Confidence: 0.8247813875

00:30:18.470 --> 00:30:20.750 And precise histologic analysis and

NOTE Confidence: 0.8247813875

00:30:20.750 --> 00:30:23.030 this can therefore direct modality

NOTE Confidence: 0.8247813875

00:30:23.099 --> 00:30:25.249 and order of therapeutic options,

NOTE Confidence: 0.8247813875

00:30:25.250 --> 00:30:27.518 and in fact, because of its utility,

NOTE Confidence: 0.8247813875

00:30:27.520 --> 00:30:29.292 percutaneous biopsies are really

NOTE Confidence: 0.8247813875

00:30:29.292 --> 00:30:31.950 one of the most important procedures

NOTE Confidence: 0.8247813875

00:30:32.016 --> 00:30:33.745 that I do on a daily basis.

NOTE Confidence: 0.8247813875

00:30:33.750 --> 00:30:36.288 So this is a relatively standard

NOTE Confidence: 0.8247813875

00:30:36.288 --> 00:30:37.980 treatment algorithm for treating

NOTE Confidence: 0.8247813875

00:30:38.051 --> 00:30:39.939 patients with advanced neuroendocrine

NOTE Confidence: 0.8247813875

00:30:39.939 --> 00:30:41.827 tumors to the liver.

NOTE Confidence: 0.8247813875

00:30:41.830 --> 00:30:44.637 IO's role is highlighted here in red,

NOTE Confidence: 0.8247813875

00:30:44.640 --> 00:30:46.236 you can see that we become

NOTE Confidence: 0.8247813875

00:30:46.236 --> 00:30:47.300 involved when there is

NOTE Confidence: 0.91166548125

00:30:47.354 --> 00:30:49.580 a need for convergence or respectability.

NOTE Confidence: 0.91166548125

00:30:49.580 --> 00:30:52.208 And when surgery is either contraindicated

NOTE Confidence: 0.91166548125

00:30:52.208 --> 00:30:54.799 due to comorbidities when the disease

NOTE Confidence: 0.91166548125

00:30:54.799 --> 00:30:57.115 burden is highly complex or diffuse,

NOTE Confidence: 0.91166548125

00:30:57.120 --> 00:30:59.525 and when patients are symptomatic

NOTE Confidence: 0.91166548125

00:30:59.525 --> 00:31:01.449 and refractory to other

NOTE Confidence: 0.91166548125

00:31:01.449 --> 00:31:03.419 medical types of treatment.

NOTE Confidence: 0.91166548125

00:31:03.420 --> 00:31:05.877 So to clarify, we can convert patients

NOTE Confidence: 0.91166548125

00:31:05.877 --> 00:31:07.451 to respectability by improving

NOTE Confidence: 0.91166548125

00:31:07.451 --> 00:31:09.263 performance status and reducing

NOTE Confidence: 0.91166548125

00:31:09.263 --> 00:31:11.528 the risk of postoperative failure.

NOTE Confidence: 0.91166548125

00:31:11.530 --> 00:31:13.470 We can treat symptoms refractory

NOTE Confidence: 0.91166548125

00:31:13.470 --> 00:31:15.410 to medical management and allow

NOTE Confidence: 0.91166548125

00:31:15.470 --> 00:31:17.798 most patients to benefit from a

NOTE Confidence: 0.91166548125

00:31:17.798 --> 00:31:19.350 sustained symptom free interval.

NOTE Confidence: 0.91166548125

00:31:19.350 --> 00:31:19.756 Lastly.

NOTE Confidence: 0.91166548125

00:31:19.756 --> 00:31:22.192 We can try to influence patients

NOTE Confidence: 0.91166548125

00:31:22.192 --> 00:31:23.859 with progressive disease burden

NOTE Confidence: 0.91166548125

00:31:23.859 --> 00:31:26.145 that is palliate those with bulk

NOTE Confidence: 0.91166548125

00:31:26.145 --> 00:31:28.207 related symptoms will prevent those

NOTE Confidence: 0.91166548125

00:31:28.207 --> 00:31:29.907 with marginal deterioration of

NOTE Confidence: 0.91166548125

00:31:29.907 --> 00:31:32.494 liver function tests to progress

NOTE Confidence: 0.91166548125

00:31:32.494 --> 00:31:36.030 to fulminant liver failure.

NOTE Confidence: 0.91166548125

00:31:36.030 --> 00:31:38.151 So the main types of liver directed

NOTE Confidence: 0.91166548125

00:31:38.151 --> 00:31:40.664 therapy first we see a procedure here

NOTE Confidence: 0.91166548125

00:31:40.664 --> 00:31:42.208 called portal vein embolization,

NOTE Confidence: 0.91166548125

00:31:42.210 --> 00:31:44.807 which has the main use of preoperatively

NOTE Confidence: 0.91166548125

00:31:44.807 --> 00:31:47.028 growing the liver that will remain

NOTE Confidence: 0.91166548125

00:31:47.028 --> 00:31:48.974 after a large surgery since the

NOTE Confidence: 0.91166548125

00:31:48.974 --> 00:31:50.636 days of the ancient Greeks and

NOTE Confidence: 0.91166548125

00:31:50.636 --> 00:31:52.030 the story of Prometheus,

NOTE Confidence: 0.91166548125

00:31:52.030 --> 00:31:54.487 we have known that the liver regenerates.

NOTE Confidence: 0.91166548125

00:31:54.490 --> 00:31:55.935 This procedure works by blocking

NOTE Confidence: 0.91166548125

00:31:55.935 --> 00:31:57.859 most of the blood supply to the

NOTE Confidence: 0.91166548125

00:31:57.859 --> 00:31:59.350 part of the liver to be removed

NOTE Confidence: 0.91166548125

00:31:59.350 --> 00:32:01.014 and forced the blood to the part

NOTE Confidence: 0.91166548125

00:32:01.014 --> 00:32:02.678 of the liver that will remain.

NOTE Confidence: 0.91166548125

00:32:02.678 --> 00:32:05.590 This will lead to liver growth and therefore.

NOTE Confidence: 0.91166548125

00:32:05.590 --> 00:32:08.536 Can reduce the number of overall

NOTE Confidence: 0.91166548125

00:32:08.536 --> 00:32:10.500 postoperative complications and increase

NOTE Confidence: 0.91166548125

00:32:10.571 --> 00:32:12.832 the number of patients who are at

NOTE Confidence: 0.91166548125

00:32:12.832 --> 00:32:15.348 risk for liver failure after surgery.

NOTE Confidence: 0.91166548125

00:32:15.350 --> 00:32:17.402 Next we have pretty nice oblation

NOTE Confidence: 0.91166548125

00:32:17.402 --> 00:32:19.816 which has the goal of eradicating

NOTE Confidence: 0.91166548125

00:32:19.816 --> 00:32:22.251 all viable malignant cells while

NOTE Confidence: 0.91166548125

00:32:22.251 --> 00:32:24.310 sparing normal surrounding tissues.

NOTE Confidence: 0.91166548125

00:32:24.310 --> 00:32:27.058 We can treat tumors with unfavorable

NOTE Confidence: 0.91166548125

00:32:27.058 --> 00:32:28.890 distribution patterns or locations

NOTE Confidence: 0.91166548125

00:32:28.960 --> 00:32:31.438 for resection and those with multiple

NOTE Confidence: 0.91166548125

00:32:31.438 --> 00:32:34.127 comorbidities that are not able to have

NOTE Confidence: 0.91166548125

00:32:34.127 --> 00:32:35.590 surgery for neuroendocrine tumors.

NOTE Confidence: 0.91166548125

00:32:35.590 --> 00:32:38.698 It is often used in patients with low

NOTE Confidence: 0.91166548125

00:32:38.698 --> 00:32:40.858 volume disease and for debulking there

NOTE Confidence: 0.91166548125

00:32:40.858 --> 00:32:42.406 are many different types of ablation,

NOTE Confidence: 0.91166548125

00:32:42.410 --> 00:32:43.982 ranging from heating,

NOTE Confidence: 0.91166548125

00:32:43.982 --> 00:32:46.078 freezing and electrocuting tumors.

NOTE Confidence: 0.91166548125

00:32:46.080 --> 00:32:47.432 They all have nuances,

NOTE Confidence: 0.91166548125

00:32:47.432 --> 00:32:49.460 so the physician performing the procedure

NOTE Confidence: 0.91166548125

00:32:49.520 --> 00:32:51.158 will need to be aware of these.

NOTE Confidence: 0.91166548125

00:32:51.160 --> 00:32:53.200 These procedures are typically done

NOTE Confidence: 0.91166548125

00:32:53.200 --> 00:32:55.240 as outpatient and are repeatable,

NOTE Confidence: 0.91166548125

00:32:55.240 --> 00:32:59.055 but they do often require general anesthesia.

NOTE Confidence: 0.91166548125

00:32:59.060 --> 00:32:59.444 Lastly,

NOTE Confidence: 0.91166548125

00:32:59.444 --> 00:33:01.364 we have transarterial therapy that

NOTE Confidence: 0.91166548125

00:33:01.364 --> 00:33:03.445 is often used for unresectable

NOTE Confidence: 0.91166548125

00:33:03.445 --> 00:33:05.845 tumors in patients with progressive

NOTE Confidence: 0.91166548125

00:33:05.845 --> 00:33:08.503 disease or are symptomatic or when

NOTE Confidence: 0.91166548125

00:33:08.503 --> 00:33:10.519 liver involvement is at least 30%.

NOTE Confidence: 0.91166548125

00:33:10.520 --> 00:33:12.620 It's also used for tumors in

NOTE Confidence: 0.91166548125

00:33:12.620 --> 00:33:14.020 difficult or dangerous locations

NOTE Confidence: 0.91166548125

00:33:14.085 --> 00:33:15.577 for resection or equation.

NOTE Confidence: 0.91166548125

00:33:15.580 --> 00:33:17.440 The rationale for a transarterial approach

NOTE Confidence: 0.91166548125

00:33:17.440 --> 00:33:19.380 is that the tumoral blood supply,

NOTE Confidence: 0.91166548125

00:33:19.380 --> 00:33:21.460 largely derived from hepatic artery,

NOTE Confidence: 0.91166548125

00:33:21.460 --> 00:33:24.082 and that we can deliver intravascular

NOTE Confidence: 0.91166548125

00:33:24.082 --> 00:33:25.830 agents via selective catheter

NOTE Confidence: 0.91166548125

00:33:25.895 --> 00:33:27.674 positioning under fluoroscopy

NOTE Confidence: 0.91166548125

00:33:27.674 --> 00:33:30.046 and therefore minimize systemic

NOTE Confidence: 0.91166548125

00:33:30.046 --> 00:33:31.825 complications and toxicities.

NOTE Confidence: 0.91166548125

00:33:31.830 --> 00:33:34.614 There are currently three main categories

NOTE Confidence: 0.91166548125

00:33:34.614 --> 00:33:38.088 of techniques which I will discuss shortly.

NOTE Confidence: 0.91166548125

00:33:38.090 --> 00:33:39.880 So the typical way transarterial

NOTE Confidence: 0.91166548125

00:33:39.880 --> 00:33:41.988 procedures are done is through a

NOTE Confidence: 0.91166548125

00:33:41.988 --> 00:33:43.780 tiny incision in the groin and rest

NOTE Confidence: 0.91166548125

00:33:43.780 --> 00:33:45.602 in each tuber catheter is advanced

NOTE Confidence: 0.91166548125

00:33:45.602 --> 00:33:47.882 into the large artery in the abdomen.

NOTE Confidence: 0.91166548125

00:33:47.882 --> 00:33:50.294 That's the aorta and then snaked

NOTE Confidence: 0.91166548125

00:33:50.294 --> 00:33:52.720 into the liver arterial supply.

NOTE Confidence: 0.91166548125

00:33:52.720 --> 00:33:55.576 Various agents toxic to tumors are

NOTE Confidence: 0.91166548125

00:33:55.576 --> 00:33:58.440 then administered to kill the tumors.

NOTE Confidence: 0.91166548125

00:33:58.440 --> 00:34:01.040 And here we see early and late phases

NOTE Confidence: 0.91166548125

00:34:01.040 --> 00:34:04.646 of an arteriogram with the circles or balls,

NOTE Confidence: 0.871771539166667

00:34:04.650 --> 00:34:07.074 all representing a tumors that are

NOTE Confidence: 0.871771539166667

00:34:07.074 --> 00:34:09.639 filled with radio graphic contrast dye.

NOTE Confidence: 0.854703225555555

00:34:11.930 --> 00:34:13.712 So there are four main types

NOTE Confidence: 0.854703225555555

00:34:13.712 --> 00:34:14.603 of transarterial therapies,

NOTE Confidence: 0.854703225555555

00:34:14.610 --> 00:34:16.176 and they are all shown here,

NOTE Confidence: 0.854703225555555

00:34:16.180 --> 00:34:18.485 TE or bland embolization is

NOTE Confidence: 0.854703225555555

00:34:18.485 --> 00:34:20.329 the administration of small,

NOTE Confidence: 0.854703225555555

00:34:20.330 --> 00:34:22.314 biochemically inert beads that

NOTE Confidence: 0.854703225555555

00:34:22.314 --> 00:34:24.794 destroy tumor solely by causing

NOTE Confidence: 0.854703225555555

00:34:24.794 --> 00:34:26.878 ischaemia or lack of blood flow.

NOTE Confidence: 0.854703225555555

00:34:26.880 --> 00:34:28.880 Chemoembolization is divided into

NOTE Confidence: 0.854703225555555

00:34:28.880 --> 00:34:31.380 conventional and drug eluting beads.

NOTE Confidence: 0.854703225555555

00:34:31.380 --> 00:34:33.580 Each uses chemotherapy administered via

NOTE Confidence: 0.854703225555555

00:34:33.580 --> 00:34:36.158 delivery vehicle and oily substance known

NOTE Confidence: 0.854703225555555

00:34:36.158 --> 00:34:38.377 as lipiodol or bland beads that have

NOTE Confidence: 0.854703225555555

00:34:38.377 --> 00:34:40.657 been soaked in chemotherapy and then

NOTE Confidence: 0.854703225555555

00:34:40.657 --> 00:34:42.642 diluted chemotherapy into the tumor.

NOTE Confidence: 0.854703225555555

00:34:42.650 --> 00:34:44.830 Lastly, there is radioembolization

NOTE Confidence: 0.854703225555555

00:34:44.830 --> 00:34:47.010 whereby a radiation source,

NOTE Confidence: 0.854703225555555

00:34:47.010 --> 00:34:49.930 typically Y 90 or 1890,

NOTE Confidence: 0.854703225555555

00:34:49.930 --> 00:34:52.882 is attached to an inner particle

NOTE Confidence: 0.854703225555555

00:34:52.882 --> 00:34:56.070 infused into the tumoral blood supply.

NOTE Confidence: 0.854703225555555

00:34:56.070 --> 00:34:57.750 So how does one decide which type

NOTE Confidence: 0.854703225555555

00:34:57.750 --> 00:34:59.280 of therapy you should receive?

NOTE Confidence: 0.854703225555555

00:34:59.280 --> 00:35:00.666 Well, it's based on a number of

NOTE Confidence: 0.854703225555555

00:35:00.666 --> 00:35:01.610 factors that include disease,

NOTE Confidence: 0.854703225555555

00:35:01.610 --> 00:35:04.746 location and extent, such as the as

NOTE Confidence: 0.854703225555555

00:35:04.746 --> 00:35:07.378 diffuse or localized as we see here.

NOTE Confidence: 0.854703225555555

00:35:07.380 --> 00:35:09.738 There are numerous.

NOTE Confidence: 0.854703225555555

00:35:09.740 --> 00:35:11.054 There's procedural considerations,

NOTE Confidence: 0.854703225555555

00:35:11.054 --> 00:35:13.244 such as the advantages and

NOTE Confidence: 0.854703225555555

00:35:13.244 --> 00:35:14.460 disadvantages of each.

NOTE Confidence: 0.854703225555555

00:35:14.460 --> 00:35:15.930 There's tumor Histology.

NOTE Confidence: 0.854703225555555

00:35:15.930 --> 00:35:18.870 There is also the expected outcomes,

NOTE Confidence: 0.854703225555555

00:35:18.870 --> 00:35:21.334 such as what we find with bland embolization,

NOTE Confidence: 0.854703225555555

00:35:21.340 --> 00:35:23.516 working best for carcinoid,

NOTE Confidence: 0.854703225555555

00:35:23.516 --> 00:35:25.692 where chemoembolization actually works

NOTE Confidence: 0.854703225555555

00:35:25.692 --> 00:35:28.839 better for a pancreatic neuroendocrine,

NOTE Confidence: 0.854703225555555

00:35:28.840 --> 00:35:31.430 and of course patient preference.

NOTE Confidence: 0.854703225555555

00:35:31.430 --> 00:35:32.805 It's important for patients to

NOTE Confidence: 0.854703225555555

00:35:32.805 --> 00:35:34.180 understand that while we can

NOTE Confidence: 0.854703225555555

00:35:34.228 --> 00:35:35.720 advise and make recommendations,

NOTE Confidence: 0.854703225555555

00:35:35.720 --> 00:35:37.368 it's ultimately the patients

NOTE Confidence: 0.854703225555555

00:35:37.368 --> 00:35:39.840 choice for what should be done.

NOTE Confidence: 0.854703225555555

00:35:39.840 --> 00:35:41.205 So I wanted to just show in

NOTE Confidence: 0.854703225555555

00:35:41.205 --> 00:35:42.230 the next few minutes.

NOTE Confidence: 0.854703225555555

00:35:42.230 --> 00:35:44.743 It's just a few patient cases that

NOTE Confidence: 0.854703225555555

00:35:44.743 --> 00:35:47.019 highlight the liver directed therapy.

NOTE Confidence: 0.854703225555555

00:35:47.020 --> 00:35:48.910 Here we see a neuroendocrine tumor patient

NOTE Confidence: 0.854703225555555

00:35:48.910 --> 00:35:50.668 with multiple tumors throughout the liver.

NOTE Confidence: 0.854703225555555

00:35:50.670 --> 00:35:53.172 The liver remnant was deemed too

NOTE Confidence: 0.854703225555555

00:35:53.172 --> 00:35:55.374 small and we therefore performed

NOTE Confidence: 0.854703225555555

00:35:55.374 --> 00:35:57.158 a portal vein embolization.

NOTE Confidence: 0.854703225555555

00:35:57.160 --> 00:35:59.204 The left lateral liver,

NOTE Confidence: 0.854703225555555

00:35:59.204 --> 00:36:02.830 which we can see here grew and

NOTE Confidence: 0.854703225555555

00:36:02.830 --> 00:36:05.505 the patient therefore underwent a

NOTE Confidence: 0.854703225555555

00:36:05.505 --> 00:36:08.566 successful major liver resection with

NOTE Confidence: 0.854703225555555

00:36:08.566 --> 00:36:11.310 an uneventful postoperative course.

NOTE Confidence: 0.854703225555555

00:36:11.310 --> 00:36:13.260 Here we have a patient with

NOTE Confidence: 0.854703225555555

00:36:13.260 --> 00:36:14.949 carcinoid syndrome caused by this

NOTE Confidence: 0.854703225555555

00:36:14.949 --> 00:36:16.935 small tumor indicated by the arrow.

NOTE Confidence: 0.854703225555555

00:36:16.940 --> 00:36:19.222 There's two member was in a very

NOTE Confidence: 0.854703225555555

00:36:19.222 --> 00:36:21.349 difficult location and due to the

NOTE Confidence: 0.854703225555555

00:36:21.349 --> 00:36:23.159 carcinoid syndrome had two poor

NOTE Confidence: 0.854703225555555

00:36:23.159 --> 00:36:25.070 nutritional status to undergo surgery.

NOTE Confidence: 0.854703225555555

00:36:25.070 --> 00:36:27.360 I emboli as the tumor.

NOTE Confidence: 0.854703225555555

00:36:27.360 --> 00:36:29.418 The tumor got smaller and the

NOTE Confidence: 0.854703225555555

00:36:29.418 --> 00:36:30.104 symptoms resolved.

NOTE Confidence: 0.854703225555555

00:36:30.110 --> 00:36:31.915 She ultimately gained 30 pounds

NOTE Confidence: 0.854703225555555

00:36:31.915 --> 00:36:34.172 and the patient was therefore able

NOTE Confidence: 0.854703225555555

00:36:34.172 --> 00:36:36.097 to undergo the uneventful surgery.

NOTE Confidence: 0.94085276

00:36:38.480 --> 00:36:40.436 Here we see a small tumor,

NOTE Confidence: 0.94085276

00:36:40.440 --> 00:36:42.060 indicated by the white arrow,

NOTE Confidence: 0.94085276

00:36:42.060 --> 00:36:43.570 but the tumor was symptomatic

NOTE Confidence: 0.94085276

00:36:43.570 --> 00:36:45.500 is shown in the right liver.

NOTE Confidence: 0.94085276

00:36:45.500 --> 00:36:47.618 I used ultrasound guidance to place

NOTE Confidence: 0.94085276

00:36:47.618 --> 00:36:50.172 the probe into the mass and use

NOTE Confidence: 0.94085276

00:36:50.172 --> 00:36:51.967 microwave ablation to heat until

NOTE Confidence: 0.94085276

00:36:51.967 --> 00:36:54.236 the tumor and 18 months later

NOTE Confidence: 0.94085276

00:36:54.236 --> 00:36:56.086 this patient had no recurrence.

NOTE Confidence: 0.94085276

00:36:56.090 --> 00:36:58.057 This is another case of a patient

NOTE Confidence: 0.94085276

00:36:58.057 --> 00:36:59.366 with carcinoid syndrome who

NOTE Confidence: 0.94085276

00:36:59.366 --> 00:37:00.590 underwent bland embolization,

NOTE Confidence: 0.94085276

00:37:00.590 --> 00:37:03.160 again with inner inactive beads.

NOTE Confidence: 0.94085276

00:37:03.160 --> 00:37:04.630 After four rounds of therapy,

NOTE Confidence: 0.94085276

00:37:04.630 --> 00:37:07.102 you can see that on the right the

NOTE Confidence: 0.94085276

00:37:07.102 --> 00:37:09.699 tumors are much smaller and much less.

NOTE Confidence: 0.94085276

00:37:09.700 --> 00:37:11.700 Much less easy to see,

NOTE Confidence: 0.94085276

00:37:11.700 --> 00:37:14.976 and she therefore became symptom free.

NOTE Confidence: 0.94085276

00:37:14.980 --> 00:37:17.104 Here we have a woman with

NOTE Confidence: 0.94085276

00:37:17.104 --> 00:37:18.166 extremely rapidly progressive

NOTE Confidence: 0.94085276

00:37:18.166 --> 00:37:19.780 rectal neuroendocrine tumor.

NOTE Confidence: 0.94085276

00:37:19.780 --> 00:37:21.088 Despite systemic therapy.

NOTE Confidence: 0.94085276

00:37:21.088 --> 00:37:21.960 In fact,

NOTE Confidence: 0.94085276

00:37:21.960 --> 00:37:23.465 her tumors were growing at a control

NOTE Confidence: 0.94085276

00:37:23.465 --> 00:37:25.234 at a very short period of time and

NOTE Confidence: 0.94085276

00:37:25.234 --> 00:37:26.843 we were able to treat these tumors

NOTE Confidence: 0.94085276

00:37:26.843 --> 00:37:28.544 in all areas of her liver with

NOTE Confidence: 0.94085276

00:37:28.544 --> 00:37:30.306 multiple rounds of chemo embolization.

NOTE Confidence: 0.94085276

00:37:30.306 --> 00:37:32.580 Here we see massive necrosis of

NOTE Confidence: 0.94085276

00:37:32.645 --> 00:37:34.505 the tumors in the right liver,

NOTE Confidence: 0.94085276

00:37:34.510 --> 00:37:34.780 fortunately,

NOTE Confidence: 0.94085276

00:37:34.780 --> 00:37:36.400 were able to stop the progression

NOTE Confidence: 0.94085276

00:37:36.400 --> 00:37:37.560 and even treated tumors,

NOTE Confidence: 0.94085276

00:37:37.560 --> 00:37:39.660 and she's doing very well.

NOTE Confidence: 0.94085276

00:37:39.660 --> 00:37:40.268 And lastly,

NOTE Confidence: 0.94085276

00:37:40.268 --> 00:37:42.396 this is a patient with carcinoid who

NOTE Confidence: 0.94085276

00:37:42.396 --> 00:37:44.777 had diffuse tumors with radio and

NOTE Confidence: 0.94085276

00:37:44.777 --> 00:37:46.389 treated with radio embolization.

NOTE Confidence: 0.94085276

00:37:46.390 --> 00:37:48.430 We can see the numerous tumors

NOTE Confidence: 0.94085276

00:37:48.430 --> 00:37:50.470 and the right liver and scan.

NOTE Confidence: 0.94085276

00:37:50.470 --> 00:37:52.890 The Brimstone scan shown here,

NOTE Confidence: 0.94085276

00:37:52.890 --> 00:37:56.271 which shows the the radio embolization

NOTE Confidence: 0.94085276

00:37:56.271 --> 00:37:58.526 particles within the right liver,

NOTE Confidence: 0.94085276

00:37:58.530 --> 00:38:00.270 and this patient was treated with

NOTE Confidence: 0.94085276

00:38:00.270 --> 00:38:02.249 both in both lobes and ultimately

NOTE Confidence: 0.94085276

00:38:02.249 --> 00:38:03.386 had stable disease.

NOTE Confidence: 0.94085276

00:38:03.390 --> 00:38:05.644 I noted to be after one year,

NOTE Confidence: 0.94085276

00:38:05.650 --> 00:38:07.470 so before I finish I just wanted

NOTE Confidence: 0.94085276

00:38:07.470 --> 00:38:09.548 to bring to your attention the

NOTE Confidence: 0.94085276

00:38:09.548 --> 00:38:10.787 Redneck clinical trial.

NOTE Confidence: 0.94085276

00:38:10.790 --> 00:38:12.272 This is a study that's looking

NOTE Confidence: 0.94085276

00:38:12.272 --> 00:38:14.232 to compare the outcomes of bland

NOTE Confidence: 0.94085276

00:38:14.232 --> 00:38:15.150 embolization chemoembolization,

NOTE Confidence: 0.94085276

00:38:15.150 --> 00:38:16.720 although the drug eluting bead.

NOTE Confidence: 0.94085276

00:38:16.720 --> 00:38:18.530 Part of the chemo embolization

NOTE Confidence: 0.94085276

00:38:18.530 --> 00:38:21.288 arm has been stopped due to higher

NOTE Confidence: 0.94085276

00:38:21.288 --> 00:38:23.910 toxicity than had been previously expected.

NOTE Confidence: 0.94085276

00:38:23.910 --> 00:38:25.251 So, in conclusion,

NOTE Confidence: 0.94085276

00:38:25.251 --> 00:38:27.039 neuroendocrine tumor liver metastases

NOTE Confidence: 0.94085276

00:38:27.039 --> 00:38:29.740 therapies should be individually tailored,

NOTE Confidence: 0.94085276

00:38:29.740 --> 00:38:30.336 and fortunately,

NOTE Confidence: 0.94085276

00:38:30.336 --> 00:38:32.422 there are many side of reductive options

NOTE Confidence: 0.94085276

00:38:32.422 --> 00:38:34.406 to help with survival in palliation.

NOTE Confidence: 0.94085276

00:38:34.410 --> 00:38:36.835 Its therapeutic modality discussed does

NOTE Confidence: 0.94085276

00:38:36.835 --> 00:38:38.775 have advantages and disadvantages,

NOTE Confidence: 0.94085276

00:38:38.780 --> 00:38:39.840 but given the limited time,

NOTE Confidence: 0.94085276

00:38:39.840 --> 00:38:42.630 I was not able to go into much detail.

NOTE Confidence: 0.94085276

00:38:42.630 --> 00:38:43.002 Clearly,

NOTE Confidence: 0.94085276

00:38:43.002 --> 00:38:45.606 it takes a high level of expertise

NOTE Confidence: 0.94085276

00:38:45.606 --> 00:38:47.100 and considerable experience.

NOTE Confidence: 0.94085276

00:38:47.100 --> 00:38:49.204 To ensure good outcomes.

NOTE Confidence: 0.94085276

00:38:49.204 --> 00:38:49.730 However,

NOTE Confidence: 0.94085276

00:38:49.730 --> 00:38:51.714 if you do need such a treatment option,

NOTE Confidence: 0.94085276

00:38:51.720 --> 00:38:53.448 you should discuss in detail with

NOTE Confidence: 0.94085276

00:38:53.448 --> 00:38:54.897 your family and physicians which

NOTE Confidence: 0.94085276

00:38:54.897 --> 00:38:56.577 therapy may be best for you and

NOTE Confidence: 0.94085276

00:38:56.577 --> 00:38:57.979 suitable for your circumstance.

NOTE Confidence: 0.94085276

00:38:57.980 --> 00:38:59.546 And thank you for your attention.

NOTE Confidence: 0.860689237142857

00:39:02.100 --> 00:39:04.326 Thank you doctor math that was great.

NOTE Confidence: 0.860689237142857

00:39:04.330 --> 00:39:07.018 We will move now to Doctor Parker

NOTE Confidence: 0.860689237142857

00:39:07.018 --> 00:39:09.659 and then Doctor Brian will follow.

NOTE Confidence: 0.772897618333333

00:39:21.360 --> 00:39:23.826 Can you all see my screen?

NOTE Confidence: 0.772897618333333

00:39:23.830 --> 00:39:26.358 Yes, OK, great.

NOTE Confidence: 0.772897618333333

00:39:26.358 --> 00:39:29.230 So good evening everyone.

NOTE Confidence: 0.772897618333333

00:39:29.230 --> 00:39:30.670 Thank you for attending this

NOTE Confidence: 0.772897618333333

00:39:30.670 --> 00:39:32.520 session and also thank you Doctor

NOTE Confidence: 0.772897618333333

00:39:32.520 --> 00:39:35.055 Constance Milo for organizing this session.

NOTE Confidence: 0.772897618333333

00:39:35.055 --> 00:39:37.600 I will briefly discuss imaging

NOTE Confidence: 0.772897618333333

00:39:37.600 --> 00:39:40.300 focusing on the dotted scan and

NOTE Confidence: 0.772897618333333

00:39:40.384 --> 00:39:42.952 actually the quality of image Ng

NOTE Confidence: 0.772897618333333

00:39:42.952 --> 00:39:45.456 does matter because many of these

NOTE Confidence: 0.772897618333333

00:39:45.456 --> 00:39:48.750 tumors are small and we want to do

NOTE Confidence: 0.772897618333333

00:39:48.750 --> 00:39:51.358 our best really to detect them and

NOTE Confidence: 0.772897618333333

00:39:51.358 --> 00:39:54.564 also to look for their changes so.

NOTE Confidence: 0.772897618333333

00:39:54.570 --> 00:39:56.186 If you're diagnosed with

NOTE Confidence: 0.772897618333333

00:39:56.186 --> 00:39:57.398 new rendering tumors,

NOTE Confidence: 0.772897618333333

77

00:39:57.400 --> 00:40:00.067 domain scan that you will be receiving

NOTE Confidence: 0.772897618333333

00:40:00.067 --> 00:40:02.932 is either city or MRI of the abdomen

NOTE Confidence: 0.772897618333333

00:40:02.932 --> 00:40:05.798 and pelvis and as you have seen in

NOTE Confidence: 0.772897618333333

00:40:05.798 --> 00:40:08.240 prior imaging that has been shown,

NOTE Confidence: 0.772897618333333

00:40:08.240 --> 00:40:09.750 they are very well seen.

NOTE Confidence: 0.772897618333333

00:40:09.750 --> 00:40:12.205 But that's only because a

NOTE Confidence: 0.772897618333333

00:40:12.205 --> 00:40:14.169 special protocol was applied,

NOTE Confidence: 0.772897618333333

00:40:14.170 --> 00:40:15.638 so these otherwise subtle

NOTE Confidence: 0.772897618333333

00:40:15.638 --> 00:40:19.100 tumors can be well seen.

NOTE Confidence: 0.772897618333333

00:40:19.100 --> 00:40:21.760 When it comes to the dotted path,

NOTE Confidence: 0.772897618333333

00:40:21.760 --> 00:40:23.080 you probably heard that

NOTE Confidence: 0.772897618333333

00:40:23.080 --> 00:40:24.400 there are two options,

NOTE Confidence: 0.772897618333333

00:40:24.400 --> 00:40:27.270 one with the gallium and other with copper.

NOTE Confidence: 0.772897618333333

00:40:27.270 --> 00:40:28.920 But don't worry,

NOTE Confidence: 0.772897618333333

00:40:28.920 --> 00:40:31.740 are they actually performing very well?

NOTE Confidence: 0.772897618333333

00:40:31.740 --> 00:40:32.192 Clinically,

NOTE Confidence: 0.772897618333333

00:40:32.192 --> 00:40:33.548 both of them,

NOTE Confidence: 0.772897618333333

00:40:33.548 --> 00:40:36.260 and they have replaced prior octreoscan

NOTE Confidence: 0.772897618333333

00:40:36.338 --> 00:40:39.117 and he really these days you shouldn't

NOTE Confidence: 0.772897618333333

00:40:39.117 --> 00:40:41.353 be getting anymore deactivated scans

NOTE Confidence: 0.772897618333333

00:40:41.353 --> 00:40:44.275 because daughter taste so much better.

NOTE Confidence: 0.772897618333333

00:40:44.280 --> 00:40:44.759 However,

NOTE Confidence: 0.772897618333333

00:40:44.759 --> 00:40:47.154 daughter did is only complementary

NOTE Confidence: 0.772897618333333

00:40:47.154 --> 00:40:49.500 to see T and MRI.

NOTE Confidence: 0.772897618333333

00:40:49.500 --> 00:40:52.650 And it should be used critical

NOTE Confidence: 0.772897618333333

00:40:52.650 --> 00:40:54.750 junctions in your management.

NOTE Confidence: 0.772897618333333

00:40:54.750 --> 00:40:56.802 There is another type of the

NOTE Confidence: 0.772897618333333

00:40:56.802 --> 00:40:59.120 scan which is with the glucose,

NOTE Confidence: 0.772897618333333

00:40:59.120 --> 00:41:00.512 which you probably heard,

NOTE Confidence: 0.772897618333333

00:41:00.512 --> 00:41:02.980 because that's like a main pet scan.

NOTE Confidence: 0.772897618333333

00:41:02.980 --> 00:41:06.438 It's not used commonly in your endocrine

NOTE Confidence: 0.772897618333333

00:41:06.438 --> 00:41:09.190 tumors because fortunately tumors are less

NOTE Confidence: 0.772897618333333

00:41:09.190 --> 00:41:11.976 aggressive and don't take much of EVD,

NOTE Confidence: 0.772897618333333

00:41:11.980 --> 00:41:14.956 but if we occasionally suspect more

NOTE Confidence: 0.772897618333333

00:41:14.956 --> 00:41:18.127 aggressive tumor that is faster growing

NOTE Confidence: 0.772897618333333

00:41:18.127 --> 00:41:21.415 or so called your endocrine carcinoma.

NOTE Confidence: 0.772897618333333

00:41:21.420 --> 00:41:24.280 Is a more aggressive than typical

NOTE Confidence: 0.772897618333333

00:41:24.280 --> 00:41:25.960 in your endocrine tumors,

NOTE Confidence: 0.772897618333333

00:41:25.960 --> 00:41:28.726 we may actually use ABT scans.

NOTE Confidence: 0.636724078181818

00:41:31.630 --> 00:41:35.095 So this is a picture of our

NOTE Confidence: 0.636724078181818

00:41:35.095 --> 00:41:37.230 Siemens scanner at Yale,

NOTE Confidence: 0.636724078181818

00:41:37.230 --> 00:41:40.290 New Haven Hospital and I've I got the

NOTE Confidence: 0.636724078181818

00:41:40.290 --> 00:41:42.564 picture with two of my technologies and

NOTE Confidence: 0.636724078181818

00:41:42.564 --> 00:41:46.030 as you will see our technology is a great.

NOTE Confidence: 0.636724078181818

00:41:46.030 --> 00:41:47.866 They are very friendly and you

NOTE Confidence: 0.636724078181818

00:41:47.866 --> 00:41:49.730 would enjoy your visit with them.

NOTE Confidence: 0.636724078181818

00:41:49.730 --> 00:41:50.822 And don't worry.

NOTE Confidence: 0.636724078181818

00:41:50.822 --> 00:41:53.006 I mean it's not really scary.

NOTE Confidence: 0.636724078181818

00:41:53.010 --> 00:41:55.418 I mean yes for very close top phobic

NOTE Confidence: 0.636724078181818

00:41:55.418 --> 00:41:57.410 patients it could be a challenge,

NOTE Confidence: 0.636724078181818

00:41:57.410 --> 00:41:59.006 but most patients actually

NOTE Confidence: 0.636724078181818

00:41:59.006 --> 00:42:01.400 do very well with the scans.

NOTE Confidence: 0.636724078181818

00:42:01.400 --> 00:42:03.350 The scans are available from

NOTE Confidence: 0.636724078181818

00:42:03.350 --> 00:42:05.750 Monday to Friday and it takes

NOTE Confidence: 0.636724078181818

00:42:05.750 --> 00:42:08.998 about 25 to 40 minutes to perform.

NOTE Confidence: 0.636724078181818

00:42:09.000 --> 00:42:10.935 There are some small differences

NOTE Confidence: 0.636724078181818

00:42:10.935 --> 00:42:12.870 between the tracers and also

NOTE Confidence: 0.636724078181818

00:42:12.939 --> 00:42:14.399 depends on your height.

NOTE Confidence: 0.636724078181818

00:42:14.400 --> 00:42:16.094 Obviously if you are taller it will

NOTE Confidence: 0.636724078181818

00:42:16.094 --> 00:42:17.768 take a little bit more to do it.

NOTE Confidence: 0.833835412

00:42:20.130 --> 00:42:23.530 So this is an example of a normal

NOTE Confidence: 0.833835412

00:42:23.530 --> 00:42:27.426 dotted scan, and as you can see most of

NOTE Confidence: 0.833835412

00:42:27.426 --> 00:42:29.757 the activity is kinda in the abdomen,

NOTE Confidence: 0.833835412

00:42:29.760 --> 00:42:32.640 but you would also see a normal pituitary,

NOTE Confidence: 0.833835412

00:42:32.640 --> 00:42:33.810 normal salivary glands,

NOTE Confidence: 0.833835412

00:42:33.810 --> 00:42:36.540 and then in the abdomen you'll see

NOTE Confidence: 0.833835412

00:42:36.616 --> 00:42:38.384 normal levels, spleen, kidneys.

NOTE Confidence: 0.833835412

00:42:38.384 --> 00:42:41.268 There will be activity and the ball

NOTE Confidence: 0.833835412

00:42:41.268 --> 00:42:44.125 and some tracer will be excreted in

NOTE Confidence: 0.833835412

00:42:44.125 --> 00:42:49.148 the bladder and tracer is actually.

NOTE Confidence: 0.833835412

00:42:49.150 --> 00:42:51.676 Uh, targeting so called someone to

NOTE Confidence: 0.833835412

00:42:51.676 --> 00:42:54.109 Staten peptide receptors in the body

NOTE Confidence: 0.833835412

00:42:54.109 --> 00:42:56.143 and you will actually hear about

NOTE Confidence: 0.833835412

00:42:56.143 --> 00:42:58.491 these in all the lectures a little

NOTE Confidence: 0.833835412

00:42:58.491 --> 00:43:01.214 bit from the from all the speakers.

NOTE Confidence: 0.833835412

00:43:01.214 --> 00:43:04.024 And as you can see,

NOTE Confidence: 0.833835412

00:43:04.030 --> 00:43:05.822 the challenges that neuroendocrine

NOTE Confidence: 0.833835412

00:43:05.822 --> 00:43:08.804 tumors and normal activity is the kind

NOTE Confidence: 0.833835412

00:43:08.804 --> 00:43:11.890 of most frequent in this abdominal area.

NOTE Confidence: 0.833835412

00:43:11.890 --> 00:43:13.154 It can be busy,

NOTE Confidence: 0.833835412

00:43:13.154 --> 00:43:16.591 so that is why we use a so called

NOTE Confidence: 0.833835412

00:43:16.591 --> 00:43:19.495 cross sectional imaging very using the.

NOTE Confidence: 0.833835412

00:43:19.500 --> 00:43:22.167 Activity from data date with a CAT

NOTE Confidence: 0.833835412

00:43:22.167 --> 00:43:25.540 scan so we can localize precisely no

NOTE Confidence: 0.833835412

00:43:25.540 --> 00:43:28.744 both normal structures and the tumor,

NOTE Confidence: 0.833835412

00:43:28.750 --> 00:43:31.360 and I just want to mention something

NOTE Confidence: 0.833835412

00:43:31.360 --> 00:43:34.230 for your knowledge is that the pancreas

NOTE Confidence: 0.833835412

00:43:34.230 --> 00:43:36.660 and bowel which you were usually.

NOTE Confidence: 0.833835412

00:43:36.660 --> 00:43:39.070 These tumors originate have a

NOTE Confidence: 0.833835412

00:43:39.070 --> 00:43:40.998 normal variable activity in.

NOTE Confidence: 0.833835412

00:43:41.000 --> 00:43:43.050 Sometimes it can be confusing.

NOTE Confidence: 0.833835412

00:43:43.050 --> 00:43:45.410 So generally if someone suspects

NOTE Confidence: 0.833835412

00:43:45.410 --> 00:43:48.280 the tumor on the dotted scan,

NOTE Confidence: 0.833835412

00:43:48.280 --> 00:43:50.228 it would require ECT.

NOTE Confidence: 0.833835412

00:43:50.228 --> 00:43:52.663 For MRI validation or occasionally

NOTE Confidence: 0.833835412

00:43:52.663 --> 00:43:55.507 and endoscopy will be performed.

NOTE Confidence: 0.833835412

00:43:55.510 --> 00:44:00.302 But you cannot just use dot it alone

NOTE Confidence: 0.833835412

00:44:00.302 --> 00:44:03.360 without validating with CT and MRI.

NOTE Confidence: 0.833835412

00:44:03.360 --> 00:44:06.040 So this is an example of a metastatic

NOTE Confidence: 0.833835412

00:44:06.040 --> 00:44:07.190 well differentiated neuron,

NOTE Confidence: 0.833835412

00:44:07.190 --> 00:44:08.138 endocrine tumors,

NOTE Confidence: 0.833835412

00:44:08.138 --> 00:44:11.456 and these tumors that avidly take Dr.

NOTE Confidence: 0.833835412

00:44:11.460 --> 00:44:11.848 Tate,

NOTE Confidence: 0.833835412

00:44:11.848 --> 00:44:13.788 and they usually have activity

NOTE Confidence: 0.833835412

00:44:13.788 --> 00:44:15.340 more than normal levels.

NOTE Confidence: 0.833835412

00:44:15.340 --> 00:44:17.170 So you hear see metastatic disease

NOTE Confidence: 0.833835412

00:44:17.170 --> 00:44:19.261 in the level with the blue arrow

NOTE Confidence: 0.833835412

00:44:19.261 --> 00:44:20.881 and you see how the activity

NOTE Confidence: 0.833835412

00:44:20.881 --> 00:44:22.558 is above the normal level.

NOTE Confidence: 0.833835412

00:44:22.560 --> 00:44:25.760 And some of them can be as high to have

NOTE Confidence: 0.833835412

00:44:25.844 --> 00:44:28.796 activity above normal spleen and we

NOTE Confidence: 0.833835412

00:44:28.796 --> 00:44:31.837 have some scoring system that actually

NOTE Confidence: 0.833835412

00:44:31.837 --> 00:44:34.789 uses liver and spleen to actually

NOTE Confidence: 0.833835412

00:44:34.789 --> 00:44:37.360 classify the ability of these tumors.

NOTE Confidence: 0.833835412

00:44:37.360 --> 00:44:39.335 And as you can see,

NOTE Confidence: 0.833835412

00:44:39.340 --> 00:44:41.320 it's amazingly sensitive because

NOTE Confidence: 0.833835412

00:44:41.320 --> 00:44:44.290 this was actually very very tiny

NOTE Confidence: 0.833835412

00:44:44.366 --> 00:44:46.784 primary in the pancreas that later

NOTE Confidence: 0.833835412

00:44:46.784 --> 00:44:49.240 on metal styles in the liver.

NOTE Confidence: 0.833835412

00:44:49.240 --> 00:44:51.576 As you can see with the blue arrow

NOTE Confidence: 0.833835412

00:44:51.576 --> 00:44:53.716 and to the abdominal cavity.

NOTE Confidence: 0.833835412

00:44:53.720 --> 00:44:56.609 As you can see with the green arrow and

NOTE Confidence: 0.833835412

00:44:56.609 --> 00:44:59.607 the advantage of daughter to scan is

NOTE Confidence: 0.833835412

00:44:59.607 --> 00:45:02.539 that sometimes can detect either disease,

NOTE Confidence: 0.833835412

00:45:02.540 --> 00:45:05.540 either in areas that are not covered with

NOTE Confidence: 0.833835412

00:45:05.540 --> 00:45:08.380 the standard CAT scan or MRI or something.

NOTE Confidence: 0.833835412

00:45:08.380 --> 00:45:11.230 Sometimes the lesions that are not

NOTE Confidence: 0.833835412

00:45:11.230 --> 00:45:14.240 visible with standard CAT scan and MRI.

NOTE Confidence: 0.833835412

00:45:14.240 --> 00:45:15.320 Uh,

NOTE Confidence: 0.833835412

00:45:15.320 --> 00:45:18.160 and not commonly,

NOTE Confidence: 0.833835412

00:45:18.160 --> 00:45:20.760 but if you have a large practice like

NOTE Confidence: 0.833835412

00:45:20.760 --> 00:45:23.217 at Yale for your Android rumors,

NOTE Confidence: 0.833835412

00:45:23.220 --> 00:45:26.424 you will see a a fair number of people

NOTE Confidence: 0.833835412

00:45:26.424 --> 00:45:29.212 that have tumors in addition to yell

NOTE Confidence: 0.833835412

00:45:29.212 --> 00:45:32.600 at to the liver and abdominal cavity.

NOTE Confidence: 0.833835412

00:45:32.600 --> 00:45:34.124 Also in the skeleton.

NOTE Confidence: 0.833835412

00:45:34.124 --> 00:45:36.940 And this is where a doctor date

NOTE Confidence: 0.833835412

00:45:36.940 --> 00:45:39.165 is a particularly valuable because

NOTE Confidence: 0.833835412

00:45:39.165 --> 00:45:42.377 it would be very difficult to scan

NOTE Confidence: 0.833835412

00:45:42.377 --> 00:45:43.727 the entire body.

NOTE Confidence: 0.833835412

00:45:43.730 --> 00:45:46.274 With the CT or MRI and moreover DOT

NOTE Confidence: 0.833835412

00:45:46.274 --> 00:45:48.661 is also frequently more sensitive

NOTE Confidence: 0.833835412

00:45:48.661 --> 00:45:51.441 than this modality is particularly

NOTE Confidence: 0.833835412

00:45:51.441 --> 00:45:53.370 more sensitive than city,

NOTE Confidence: 0.741344041

00:45:53.370 --> 00:45:57.190 so if you have disease that is in the bond,

NOTE Confidence: 0.741344041

00:45:57.190 --> 00:45:59.626 you may actually be scanned more

NOTE Confidence: 0.741344041

00:45:59.626 --> 00:46:01.250 frequently with daughter did.

NOTE Confidence: 0.741344041

00:46:01.250 --> 00:46:02.675 Usually you get dotted the

NOTE Confidence: 0.741344041

00:46:02.675 --> 00:46:04.510 scans every one to two years,

NOTE Confidence: 0.741344041

00:46:04.510 --> 00:46:06.822 but you get can get more frequent order

NOTE Confidence: 0.741344041

00:46:06.822 --> 00:46:09.365 to scan if you have a skeletal disease,

NOTE Confidence: 0.741344041

00:46:09.370 --> 00:46:11.575 especially if someone

NOTE Confidence: 0.741344041

00:46:11.575 --> 00:46:13.780 suspects the progression.

NOTE Confidence: 0.741344041

00:46:13.780 --> 00:46:15.150 In the areas that are

NOTE Confidence: 0.741344041

00:46:15.150 --> 00:46:16.850 not covered by CT or MRI.

NOTE Confidence: 0.8027553375

00:46:19.360 --> 00:46:22.080 Now, imaging interpretation is

NOTE Confidence: 0.8027553375

00:46:22.080 --> 00:46:24.800 complicated and really expertise,

NOTE Confidence: 0.8027553375

00:46:24.800 --> 00:46:28.944 and of the your readers do matter,

NOTE Confidence: 0.8027553375

00:46:28.950 --> 00:46:31.560 and it fortunately all of us

NOTE Confidence: 0.8027553375

00:46:31.560 --> 00:46:34.998 to see a lot of these scans,

NOTE Confidence: 0.8027553375

00:46:35.000 --> 00:46:37.952 and we have a lengthy experience

NOTE Confidence: 0.8027553375

00:46:37.952 --> 00:46:39.920 in interpreting those scans.

NOTE Confidence: 0.8027553375

00:46:39.920 --> 00:46:43.550 So one thing which I would also have to

NOTE Confidence: 0.8027553375

00:46:43.550 --> 00:46:46.056 mention to you when you are reading your

NOTE Confidence: 0.8027553375

00:46:46.056 --> 00:46:48.476 report report is only the first step.

NOTE Confidence: 0.8027553375

00:46:48.480 --> 00:46:51.024 The final decision on the response

NOTE Confidence: 0.8027553375

00:46:51.024 --> 00:46:53.252 or progression is not made

NOTE Confidence: 0.8027553375

00:46:53.252 --> 00:46:55.068 by uncle by radiologists.

NOTE Confidence: 0.8027553375

00:46:55.070 --> 00:46:57.428 It is made by your oncologist,

NOTE Confidence: 0.8027553375

00:46:57.430 --> 00:47:01.528 so you usually don't get alarmed

NOTE Confidence: 0.8027553375

00:47:01.528 --> 00:47:03.760 with your report until you actually

NOTE Confidence: 0.8027553375

00:47:03.823 --> 00:47:05.467 speak with your oncologist,

NOTE Confidence: 0.8027553375

00:47:05.470 --> 00:47:08.040 which will put those findings

NOTE Confidence: 0.8027553375

00:47:08.040 --> 00:47:11.070 in very better context for you.

NOTE Confidence: 0.8027553375

00:47:11.070 --> 00:47:13.380 And one thing which also is important

NOTE Confidence: 0.8027553375

00:47:13.380 --> 00:47:15.867 to mention is you don't get alarmed.

NOTE Confidence: 0.8027553375

00:47:15.870 --> 00:47:16.872 Neuroendocrine tumors,

NOTE Confidence: 0.8027553375

00:47:16.872 --> 00:47:18.876 chronic disease with which

NOTE Confidence: 0.8027553375

00:47:18.876 --> 00:47:21.550 you would live for decades,

NOTE Confidence: 0.8027553375

00:47:21.550 --> 00:47:24.106 so minor responses are minor progressions

NOTE Confidence: 0.8027553375

00:47:24.106 --> 00:47:26.390 may not be clinically significant

NOTE Confidence: 0.8027553375

00:47:26.390 --> 00:47:28.925 to justify the management change,

NOTE Confidence: 0.8027553375

00:47:28.930 --> 00:47:32.714 so if they if someone describes some new

NOTE Confidence: 0.8027553375

00:47:32.714 --> 00:47:36.200 small lesion that may not actually be

NOTE Confidence: 0.8027553375

00:47:36.290 --> 00:47:39.670 serious or required management change.

NOTE Confidence: 0.8027553375

00:47:39.670 --> 00:47:41.020 Size measurements are

NOTE Confidence: 0.8027553375

00:47:41.020 --> 00:47:43.270 validated in city and MRI,

NOTE Confidence: 0.8027553375

00:47:43.270 --> 00:47:45.410 but not on daughter date.

NOTE Confidence: 0.8027553375

00:47:45.410 --> 00:47:47.975 So in order for look to the size changes

NOTE Confidence: 0.8027553375

00:47:47.975 --> 00:47:50.707 you would have to stay with your main

NOTE Confidence: 0.8027553375

00:47:50.707 --> 00:47:53.265 modality and one thing which everyone

NOTE Confidence: 0.8027553375

00:47:53.265 --> 00:47:56.250 gets cares about is SUV changes,

NOTE Confidence: 0.8027553375

00:47:56.250 --> 00:47:59.554 so that's a unit that we use to

NOTE Confidence: 0.8027553375

00:47:59.554 --> 00:48:01.589 express activity on PET scans.

NOTE Confidence: 0.8027553375

00:48:01.590 --> 00:48:04.340 But for your endocrine tumors

NOTE Confidence: 0.8027553375

00:48:04.340 --> 00:48:05.990 and daughter date,

NOTE Confidence: 0.8027553375

00:48:05.990 --> 00:48:08.570 these are not really clinically relevant,

NOTE Confidence: 0.8027553375

00:48:08.570 --> 00:48:10.534 so increase in SUVs.

NOTE Confidence: 0.8027553375

00:48:10.534 --> 00:48:13.480 Does not mean progression and decreasing

NOTE Confidence: 0.8027553375

00:48:13.569 --> 00:48:16.227 as leaves does not mean response.

NOTE Confidence: 0.632035964285714

00:48:18.520 --> 00:48:21.964 And a little bit about the logistics.

NOTE Confidence: 0.632035964285714

00:48:21.970 --> 00:48:24.112 So again, your main modality would

NOTE Confidence: 0.632035964285714

00:48:24.112 --> 00:48:26.505 be either CAT scan or MRI, depending

NOTE Confidence: 0.632035964285714

00:48:26.505 --> 00:48:29.055 on the preference of young cologist.

NOTE Confidence: 0.632035964285714

00:48:29.060 --> 00:48:31.775 And for patients with metastatic

NOTE Confidence: 0.632035964285714

00:48:31.775 --> 00:48:34.490 neuroendocrine tumors on treatment they

NOTE Confidence: 0.632035964285714

00:48:34.569 --> 00:48:37.523 are usually recommended every three to six

NOTE Confidence: 0.632035964285714

00:48:37.523 --> 00:48:41.205 months for to look for changes in tumor size.

NOTE Confidence: 0.632035964285714

00:48:41.210 --> 00:48:42.814 If you have surgery,

NOTE Confidence: 0.632035964285714

00:48:42.814 --> 00:48:45.653 and especially if they were able to

NOTE Confidence: 0.632035964285714

00:48:45.653 --> 00:48:48.491 remove most of the tumor, all the tumors.

NOTE Confidence: 0.632035964285714

00:48:48.491 --> 00:48:50.276 The scan will be performed

NOTE Confidence: 0.632035964285714

00:48:50.276 --> 00:48:52.330 a little bit less frequent,

NOTE Confidence: 0.632035964285714

00:48:52.330 --> 00:48:54.370 usually at 6 or 12 months,

NOTE Confidence: 0.632035964285714

00:48:54.370 --> 00:48:59.795 to monitor for recurrence dotted path scans.

NOTE Confidence: 0.632035964285714

00:48:59.800 --> 00:49:02.385 Usually performed a diagnosis to

NOTE Confidence: 0.632035964285714

00:49:02.385 --> 00:49:05.497 determine the tumor spread or what

NOTE Confidence: 0.632035964285714

00:49:05.497 --> 00:49:08.591 would be the medical terms is staging

NOTE Confidence: 0.632035964285714

00:49:08.591 --> 00:49:11.840 the doctor Conser spoke about and then

NOTE Confidence: 0.632035964285714

00:49:11.840 --> 00:49:14.960 everyone to two years to look for areas

NOTE Confidence: 0.632035964285714

00:49:15.045 --> 00:49:17.433 of progression not detected by CAT

NOTE Confidence: 0.632035964285714

00:49:17.433 --> 00:49:20.899 scan or MRI of the abdomen and pelvis

NOTE Confidence: 0.632035964285714

00:49:20.900 --> 00:49:23.924 and prior to lutathera treatment which

NOTE Confidence: 0.632035964285714

00:49:23.924 --> 00:49:26.380 has revolutionized the field like

NOTE Confidence: 0.632035964285714

00:49:26.380 --> 00:49:29.252 Doctor Boy and will talk to you about.

NOTE Confidence: 0.632035964285714

00:49:29.260 --> 00:49:30.798 And occasionally,

NOTE Confidence: 0.632035964285714

00:49:30.798 --> 00:49:34.643 a rare patients with aggressive

NOTE Confidence: 0.632035964285714

00:49:34.643 --> 00:49:38.688 disease would receive a FDG PET scans

NOTE Confidence: 0.632035964285714

00:49:38.690 --> 00:49:41.698 and that would be some to be like

NOTE Confidence: 0.632035964285714

00:49:41.698 --> 00:49:44.840 a brief overview of the image Ng.

NOTE Confidence: 0.632035964285714

00:49:44.840 --> 00:49:45.690 Thank you.

NOTE Confidence: 0.802880011052632

00:49:47.570 --> 00:49:48.842 Doctor Packer, thank you.

NOTE Confidence: 0.802880011052632

00:49:48.842 --> 00:49:51.692 We will end up with doctor a boy and

NOTE Confidence: 0.802880011052632

00:49:51.692 --> 00:49:53.444 then we'll open up for questions.

NOTE Confidence: 0.8367229175

00:49:53.600 --> 00:49:56.080 Can someone stop my share for some reason?

NOTE Confidence: 0.8367229175

00:49:56.080 --> 00:49:58.400 I have hard time stopping.

NOTE Confidence: 0.8367229175

00:49:58.400 --> 00:50:01.350 Oh OK, I was able. Thank you thanks.

NOTE Confidence: 0.8562516

00:50:15.960 --> 00:50:16.809 Take your time.

NOTE Confidence: 0.892050475384615

00:50:30.960 --> 00:50:33.360 I'll remind everybody to please

NOTE Confidence: 0.892050475384615

00:50:33.360 --> 00:50:35.280 keep putting your questions

NOTE Confidence: 0.892050475384615

00:50:35.280 --> 00:50:37.431 in the Q&A and we're trying to

NOTE Confidence: 0.892050475384615

00:50:37.431 --> 00:50:38.913 answer them as they come in,

NOTE Confidence: 0.892050475384615

00:50:38.920 --> 00:50:40.258 and we'll address some of them.

NOTE Confidence: 0.892050475384615

00:50:40.260 --> 00:50:42.268 Also at the end.

NOTE Confidence: 0.9303226

00:50:53.590 --> 00:50:55.328 Perfect Merriam that looks great.

NOTE Confidence: 0.9458474

00:50:57.570 --> 00:51:00.242 Thank you, thank you so

NOTE Confidence: 0.9458474

00:51:00.242 --> 00:51:02.870 much and thank you all

NOTE Confidence: 0.79739195

00:51:02.870 --> 00:51:04.210 the speakers for fantastic

NOTE Confidence: 0.79739195

00:51:04.210 --> 00:51:06.718 presentations and particularly Doctor

NOTE Confidence: 0.79739195

00:51:06.718 --> 00:51:09.406 Cooker for great overview of the

NOTE Confidence: 0.79739195

00:51:09.406 --> 00:51:12.310 imaging of neuroendocrine tumors.

NOTE Confidence: 0.79739195

00:51:12.310 --> 00:51:15.790 And I will address fairly quickly

NOTE Confidence: 0.79739195

00:51:15.790 --> 00:51:19.276 in terms of what is theranostics

NOTE Confidence: 0.79739195

00:51:19.280 --> 00:51:21.840 when we think about imaging,

NOTE Confidence: 0.79739195

00:51:21.840 --> 00:51:25.450 we think about CAT scans and MRI scans and a

NOTE Confidence: 0.79739195

00:51:25.450 --> 00:51:28.460 lot of the times we are seeing just anatomy.

NOTE Confidence: 0.79739195

00:51:28.460 --> 00:51:31.946 We see the liver, the vertebral body,

NOTE Confidence: 0.79739195

00:51:31.950 --> 00:51:34.318 the spleen, the stomach,

NOTE Confidence: 0.79739195

00:51:34.318 --> 00:51:36.094 the subcutaneous fat.

NOTE Confidence: 0.79739195

00:51:36.100 --> 00:51:38.044 That's that's what we see and

NOTE Confidence: 0.79739195

00:51:38.044 --> 00:51:39.016 how we interpret.

NOTE Confidence: 0.79739195

00:51:39.020 --> 00:51:40.511 We can also see a little bit

NOTE Confidence: 0.79739195

00:51:40.511 --> 00:51:42.219 in terms of where the tumor is,

NOTE Confidence: 0.79739195

00:51:42.220 --> 00:51:44.140 and so here's a couple of

NOTE Confidence: 0.79739195

00:51:44.140 --> 00:51:45.420 tumors in the liver.

NOTE Confidence: 0.79739195

00:51:45.420 --> 00:51:47.118 But we want to start seeing

NOTE Confidence: 0.79739195

00:51:47.118 --> 00:51:47.967 with nuclear medicine,

NOTE Confidence: 0.79739195

00:51:47.970 --> 00:51:50.189 and this is what was really exciting.

NOTE Confidence: 0.79739195

00:51:50.190 --> 00:51:53.034 Doctor Prakash presentation is to see

NOTE Confidence: 0.79739195

00:51:53.034 --> 00:51:56.787 beyond anatomy and to see into the function,

NOTE Confidence: 0.79739195

00:51:56.790 --> 00:51:59.406 so nuclear medicine allows us to do that.

NOTE Confidence: 0.79739195

00:51:59.410 --> 00:52:02.385 So here's an example of just seeing

NOTE Confidence: 0.79739195

00:52:02.385 --> 00:52:05.634 the anatomy and seeing the just basic

NOTE Confidence: 0.79739195

00:52:05.634 --> 00:52:08.269 imaging characteristics of the tumor.

NOTE Confidence: 0.79739195

00:52:08.270 --> 00:52:11.021 But we want to start heading towards

NOTE Confidence: 0.79739195

00:52:11.021 --> 00:52:12.578 this and you're looking at this

NOTE Confidence: 0.79739195

00:52:12.578 --> 00:52:13.901 right now and you're saying, well,

NOTE Confidence: 0.79739195

00:52:13.901 --> 00:52:16.428 actually this image doesn't look that good.

NOTE Confidence: 0.79739195

00:52:16.430 --> 00:52:18.824 It's it's kind of hard to see

NOTE Confidence: 0.79739195

00:52:18.824 --> 00:52:19.850 what's going on.

NOTE Confidence: 0.79739195

00:52:19.850 --> 00:52:21.422 I'm not even sure.

NOTE Confidence: 0.79739195

00:52:21.422 --> 00:52:23.387 Where the liver is here,

NOTE Confidence: 0.79739195

00:52:23.390 --> 00:52:25.880 and if you think about it,

NOTE Confidence: 0.79739195

00:52:25.880 --> 00:52:29.597 each cancer cell here is holding a light bulb

NOTE Confidence: 0.79739195

00:52:29.597 --> 00:52:33.139 and this light bulb is sending a signal.

NOTE Confidence: 0.79739195

00:52:33.140 --> 00:52:33.602 Hey,

NOTE Confidence: 0.79739195

00:52:33.602 --> 00:52:36.836 I am a very specific looking cell

NOTE Confidence: 0.79739195

00:52:36.840 --> 00:52:38.838 and that's what you're seeing here.

NOTE Confidence: 0.79739195

00:52:38.840 --> 00:52:41.440 You actually see tumors here that

NOTE Confidence: 0.79739195

00:52:41.440 --> 00:52:43.440 are in this particular patient.

NOTE Confidence: 0.79739195

00:52:43.440 --> 00:52:45.366 You also see some splenic uptake

NOTE Confidence: 0.79739195

00:52:45.366 --> 00:52:47.120 and some normal tissue uptake,

NOTE Confidence: 0.79739195

00:52:47.120 --> 00:52:48.982 but not so much majority of the

NOTE Confidence: 0.79739195

00:52:48.982 --> 00:52:50.300 signal comes from tumors.

NOTE Confidence: 0.79739195

00:52:50.300 --> 00:52:52.710 And if you look at the corresponding to.

NOTE Confidence: 0.79739195

00:52:52.710 --> 00:52:54.870 The see T you can see that piece

NOTE Confidence: 0.79739195

00:52:54.870 --> 00:52:57.542 tumors are not as easily seen without

NOTE Confidence: 0.79739195

00:52:57.542 --> 00:53:00.272 this fantastic agent called gallium

NOTE Confidence: 0.79739195

00:53:00.272 --> 00:53:04.107 Dotatate as Doctor Picard discussed just now.

NOTE Confidence: 0.79739195

00:53:04.110 --> 00:53:05.680 But what does that mean?

NOTE Confidence: 0.79739195

00:53:05.680 --> 00:53:08.080 What is this gallium dotatate?

NOTE Confidence: 0.79739195

00:53:08.080 --> 00:53:10.152 I know some of the students sometimes

NOTE Confidence: 0.79739195

00:53:10.152 --> 00:53:12.306 when they rotate with me they say Dodo.

NOTE Confidence: 0.79739195

00:53:12.310 --> 00:53:14.470 What? What is this though?

NOTE Confidence: 0.79739195

00:53:14.470 --> 00:53:15.798 Does tracer?

NOTE Confidence: 0.79739195

00:53:15.798 --> 00:53:19.782 Well it turns out gallium Dotatate

NOTE Confidence: 0.79739195

00:53:19.782 --> 00:53:23.218 will dissect it point by point.

NOTE Confidence: 0.79739195

00:53:23.220 --> 00:53:26.594 But it really allows us to visualize

NOTE Confidence: 0.79739195

00:53:26.600 --> 00:53:29.498 cells surface of the tumor and the

NOTE Confidence: 0.79739195

00:53:29.498 --> 00:53:31.912 receptors on that solid surface and

NOTE Confidence: 0.79739195

00:53:31.912 --> 00:53:34.856 the way it's able to visualize it is

NOTE Confidence: 0.79739195

00:53:34.935 --> 00:53:38.079 by the ligand that binds to the receptor.

NOTE Confidence: 0.79739195

00:53:38.080 --> 00:53:40.738 And because the ligand is radioactive,

NOTE Confidence: 0.79739195

00:53:40.740 --> 00:53:43.337 it lights up like a light bulb.

NOTE Confidence: 0.79739195

00:53:43.340 --> 00:53:46.035 And the reason why it lights up

NOTE Confidence: 0.79739195

00:53:46.035 --> 00:53:48.778 only on tumors is exactly how Dr.

NOTE Confidence: 0.79739195

00:53:48.780 --> 00:53:52.450 Kunz described the lock and key.

NOTE Confidence: 0.79739195

00:53:52.450 --> 00:53:53.262 The idea,

NOTE Confidence: 0.79739195

00:53:53.262 --> 00:53:55.698 so the receptor you can think

NOTE Confidence: 0.79739195

00:53:55.698 --> 00:53:58.590 of it as a lock and the lag,

NOTE Confidence: 0.79739195

00:53:58.590 --> 00:54:01.370 and you think you can think of it is a key,

NOTE Confidence: 0.79739195

00:54:01.370 --> 00:54:03.810 and there's a very specific interaction

NOTE Confidence: 0.79739195

00:54:03.810 --> 00:54:06.110 between the wagon dinner receptor.

NOTE Confidence: 0.79739195

00:54:06.110 --> 00:54:09.578 So when you're giving this radioactive drug,

NOTE Confidence: 0.79739195

00:54:09.578 --> 00:54:11.786 it goes specifically to the cells

NOTE Confidence: 0.79739195

00:54:11.786 --> 00:54:14.165 that have this receptor and targets

NOTE Confidence: 0.79739195

00:54:14.165 --> 00:54:16.577 those cancer cells that are holding

NOTE Confidence: 0.79739195

00:54:16.577 --> 00:54:18.889 up this light bulb and saying,

NOTE Confidence: 0.79739195

00:54:18.890 --> 00:54:19.282 hey,

NOTE Confidence: 0.79739195

00:54:19.282 --> 00:54:21.242 we're here and that's your

NOTE Confidence: 0.79739195

00:54:21.242 --> 00:54:22.810 how you're able to

NOTE Confidence: 0.757439954166667

00:54:22.891 --> 00:54:24.459 specifically target.

NOTE Confidence: 0.757439954166667

00:54:24.460 --> 00:54:25.888 Therapy to this location.

NOTE Confidence: 0.7810315

00:54:27.960 --> 00:54:31.040 How do we give the radioactive nuclide?

NOTE Confidence: 0.7810315

00:54:31.040 --> 00:54:33.624 Well, actually we want to be extremely safe,

NOTE Confidence: 0.7810315

00:54:33.630 --> 00:54:35.547 so we put it in a cage and it's

NOTE Confidence: 0.7810315

00:54:35.547 --> 00:54:37.532 a chemical cage, but you could

NOTE Confidence: 0.7810315

00:54:37.532 --> 00:54:39.770 think of it as a cage right here.

NOTE Confidence: 0.7810315

00:54:39.770 --> 00:54:43.004 So the radionuclide is located in the

NOTE Confidence: 0.7810315

00:54:43.004 --> 00:54:46.656 cage and then we attach the key to it.

NOTE Confidence: 0.7810315

00:54:46.660 --> 00:54:48.625 That will take it directly

NOTE Confidence: 0.7810315

00:54:48.625 --> 00:54:50.197 to the cancer cell.

NOTE Confidence: 0.7810315

00:54:50.200 --> 00:54:53.287 So this key takes this payload with

NOTE Confidence: 0.7810315

00:54:53.287 --> 00:54:56.230 it to destroy the cancer cells.

NOTE Confidence: 0.7810315

00:54:56.230 --> 00:54:59.338 So how? Let's dissect what this means.

NOTE Confidence: 0.7810315

00:54:59.340 --> 00:55:02.385 So the radionuclide you see right here.

NOTE Confidence: 0.7810315

00:55:02.390 --> 00:55:03.836 That's can be.

NOTE Confidence: 0.7810315

00:55:03.836 --> 00:55:06.246 We can pick any radionuclide.

NOTE Confidence: 0.7810315

00:55:06.250 --> 00:55:07.594 It could be the imaging radionuclide

NOTE Confidence: 0.7810315

00:55:07.594 --> 00:55:09.598 or it can be a therapy radionuclide.

NOTE Confidence: 0.7810315

00:55:09.600 --> 00:55:11.847 But here we're talking about the imaging.

NOTE Confidence: 0.7810315

00:55:11.850 --> 00:55:14.870 So gallium or copper.

NOTE Confidence: 0.7810315

00:55:14.870 --> 00:55:17.648 And then the cage is Dora,

NOTE Confidence: 0.7810315

00:55:17.650 --> 00:55:19.140 so that's what Dora means.

NOTE Confidence: 0.7810315

00:55:19.140 --> 00:55:21.156 It literally is just a cage,

NOTE Confidence: 0.7810315

00:55:21.160 --> 00:55:22.264 and it's ubiquitous.

NOTE Confidence: 0.7810315

00:55:22.264 --> 00:55:25.925 You can use the same cage for different

NOTE Confidence: 0.7810315

00:55:25.925 --> 00:55:29.135 radionuclides and then Tate is our

NOTE Confidence: 0.7810315

00:55:29.135 --> 00:55:31.830 actually targeting molecule the key.

NOTE Confidence: 0.7810315

00:55:31.830 --> 00:55:33.336 And when you combine them all,

NOTE Confidence: 0.7810315

00:55:33.340 --> 00:55:36.172 you get this payload and it

NOTE Confidence: 0.7810315

00:55:36.172 --> 00:55:39.543 goes into the body and directly

NOTE Confidence: 0.7810315

00:55:39.543 --> 00:55:42.299 finds these specific receptors

NOTE Confidence: 0.7810315

00:55:42.299 --> 00:55:44.310 and connects with the lock.

NOTE Confidence: 0.7810315

00:55:44.310 --> 00:55:46.899 So then you have the lock and key.

NOTE Confidence: 0.7810315

00:55:46.900 --> 00:55:49.735 And that's you were able to really

NOTE Confidence: 0.7810315

00:55:49.735 --> 00:55:51.923 target specific cells and the way

NOTE Confidence: 0.7810315

00:55:51.923 --> 00:55:55.240 we call it is gallium dooda Tate.

NOTE Confidence: 0.7810315

00:55:55.240 --> 00:56:00.700 So radionuclide cage and that key.

NOTE Confidence: 0.7810315

00:56:00.700 --> 00:56:02.610 That's basically how it works.

NOTE Confidence: 0.7810315

00:56:02.610 --> 00:56:05.424 Now, how does the therapy work well?

NOTE Confidence: 0.7810315

00:56:05.430 --> 00:56:09.056 The the cage and the key are the same,

NOTE Confidence: 0.7810315

00:56:09.060 --> 00:56:11.502 but the radionuclide is different so

00:56:11.502 --> 00:56:13.790 the radionuclide could be lutetium,

00:56:13.790 --> 00:56:14.153 actinium,

00:56:14.153 --> 00:56:16.694 or bismuth and we're working on these

00:56:16.694 --> 00:56:19.234 kinds of therapies at Yale to start

00:56:19.234 --> 00:56:21.697 bringing you these kinds of therapies so

00:56:21.697 --> 00:56:24.579 that we can provide the best care for you.

00:56:24.579 --> 00:56:26.891 And then the cage stays the same and

00:56:26.891 --> 00:56:29.426 the targeting molecule stays the same.

00:56:29.430 --> 00:56:30.510 The tape.

00:56:30.510 --> 00:56:33.750 So with this method you can

00:56:33.750 --> 00:56:36.180 actually image the patient.

00:56:36.180 --> 00:56:38.430 With the same drug then exchanged

00:56:38.430 --> 00:56:40.609 their radionuclide from the cage for

00:56:40.609 --> 00:56:42.758 the treat for the treating drug and

00:56:42.758 --> 00:56:45.035 treat the patient with the same drug.

NOTE Confidence: 0.7810315

00:56:45.040 --> 00:56:47.348 So you're basically providing

NOTE Confidence: 0.7810315

00:56:47.348 --> 00:56:49.079 very targeted therapy.

NOTE Confidence: 0.7810315

00:56:49.080 --> 00:56:51.649 And then the therapy will go straight

NOTE Confidence: 0.7810315

00:56:51.649 --> 00:56:53.856 to the somatostatin receptor and we

NOTE Confidence: 0.7810315

00:56:53.856 --> 00:56:56.900 will call it very similarly lutetium.

NOTE Confidence: 0.7810315

00:56:56.900 --> 00:56:58.700 So the radionuclide dooda the

NOTE Confidence: 0.7810315

00:56:58.700 --> 00:57:01.311 cage and Tate which is a targeting

NOTE Confidence: 0.7810315

00:57:01.311 --> 00:57:02.787 molecule or the key.

NOTE Confidence: 0.90812826

00:57:04.850 --> 00:57:06.966 And this is the basis for image

NOTE Confidence: 0.90812826

00:57:06.966 --> 00:57:08.170 guided therapy or therapy.

NOTE Confidence: 0.90812826

00:57:08.170 --> 00:57:10.130 Or as we know theranostics,

NOTE Confidence: 0.90812826

00:57:10.130 --> 00:57:12.524 we do the imaging with the imaging

NOTE Confidence: 0.90812826

00:57:12.524 --> 00:57:14.237 agent that gallium dotatate and

NOTE Confidence: 0.90812826

00:57:14.237 --> 00:57:16.407 then you can see all the tumors

NOTE Confidence: 0.90812826

00:57:16.407 --> 00:57:18.812 are lighting up throughout the body

NOTE Confidence: 0.90812826

00:57:18.812 --> 00:57:21.522 because they have this receptor and the

NOTE Confidence: 0.90812826

00:57:21.522 --> 00:57:23.874 cells are holding up the light bulb.

NOTE Confidence: 0.90812826

00:57:23.880 --> 00:57:25.140 I'm saying here we are.

NOTE Confidence: 0.90812826

00:57:25.140 --> 00:57:26.412 We're right here.

NOTE Confidence: 0.90812826

00:57:26.412 --> 00:57:28.108 We're expressing this receptor.

NOTE Confidence: 0.90812826

00:57:28.110 --> 00:57:30.515 Then we give the therapy

NOTE Confidence: 0.90812826

00:57:30.515 --> 00:57:31.958 with lutetium dotatate,

NOTE Confidence: 0.90812826

00:57:31.960 --> 00:57:35.348 which is identical drug as the gallium.

NOTE Confidence: 0.90812826

00:57:35.350 --> 00:57:37.429 To date, except the only thing that's

NOTE Confidence: 0.90812826

00:57:37.429 --> 00:57:39.100 different is the radionuclide.

NOTE Confidence: 0.90812826

00:57:39.100 --> 00:57:42.278 This is our imaging Euclid and this

NOTE Confidence: 0.90812826

00:57:42.278 --> 00:57:45.649 is our treatment radionuclide and then.

NOTE Confidence: 0.90812826

00:57:45.650 --> 00:57:48.170 We can actually do posttreatment imaging

NOTE Confidence: 0.90812826

00:57:48.170 --> 00:57:52.070 and we can see exactly where the drug went,

NOTE Confidence: 0.90812826

00:57:52.070 --> 00:57:54.758 which tumors the drug went to,

NOTE Confidence: 0.90812826

00:57:54.760 --> 00:57:57.688 and we can even estimate the dose the

NOTE Confidence: 0.90812826

00:57:57.688 --> 00:58:00.649 that the individual tumors obtained,

NOTE Confidence: 0.90812826

00:58:00.650 --> 00:58:03.714 and then we can send them to the

NOTE Confidence: 0.90812826

00:58:03.714 --> 00:58:05.469 interventional ecology and surgery

NOTE Confidence: 0.90812826

00:58:05.469 --> 00:58:06.846 for targeted therapy,

NOTE Confidence: 0.90812826

00:58:06.850 --> 00:58:09.380 as most greatly discussed earlier.

NOTE Confidence: 0.90812826

00:58:09.380 --> 00:58:12.710 So this therapy approaches is

NOTE Confidence: 0.90812826

00:58:12.710 --> 00:58:16.446 actually not very novel, but the.

NOTE Confidence: 0.90812826

00:58:16.446 --> 00:58:18.578 Approach to neuron decurrent

NOTE Confidence: 0.90812826

00:58:18.578 --> 00:58:20.710 tumors is very novel.

NOTE Confidence: 0.90812826

00:58:20.710 --> 00:58:23.206 And this therapy allows us to

NOTE Confidence: 0.90812826

00:58:23.206 --> 00:58:25.736 pick the right patient and use

NOTE Confidence: 0.90812826

00:58:25.736 --> 00:58:28.076 the right drug for the patient.

NOTE Confidence: 0.90812826

00:58:28.080 --> 00:58:30.480 Now the concept of targeted therapy

NOTE Confidence: 0.90812826

00:58:30.480 --> 00:58:33.182 has been available for a very long

NOTE Confidence: 0.90812826

00:58:33.182 --> 00:58:35.590 time and the idea for targeted therapy

NOTE Confidence: 0.90812826

00:58:35.667 --> 00:58:38.369 is to treat cancer by by targeting

NOTE Confidence: 0.90812826

00:58:38.369 --> 00:58:40.304 proteins and pathways that control

NOTE Confidence: 0.90812826

00:58:40.304 --> 00:58:43.400 how cancer cells grow and divide and spread.

NOTE Confidence: 0.90812826

00:58:43.400 --> 00:58:45.830 But when you give a drug that targets it,

NOTE Confidence: 0.90812826

00:58:45.830 --> 00:58:48.190 specific pathway or specific protein,

NOTE Confidence: 0.90812826

00:58:48.190 --> 00:58:51.630 there's no way you can target it to

NOTE Confidence: 0.90812826

00:58:51.630 --> 00:58:54.765 specific tumor cell with their Gnostics

NOTE Confidence: 0.90812826

00:58:54.765 --> 00:58:58.370 were actually able to image the targets.

NOTE Confidence: 0.90812826

00:58:58.370 --> 00:59:00.953 And make sure that the the patients

NOTE Confidence: 0.90812826

00:59:00.953 --> 00:59:02.904 tumors are expressing the targets

NOTE Confidence: 0.90812826

00:59:02.904 --> 00:59:04.844 that we're planning to attack,

NOTE Confidence: 0.90812826

00:59:04.850 --> 00:59:07.510 and then target the therapy and

NOTE Confidence: 0.90812826

00:59:07.510 --> 00:59:10.000 then see where the drug went and

NOTE Confidence: 0.90812826

00:59:10.000 --> 00:59:12.510 calculate the dose the tumor received.

NOTE Confidence: 0.90812826

00:59:12.510 --> 00:59:15.180 That is the advantage of theranostics,

NOTE Confidence: 0.90812826

00:59:15.180 --> 00:59:21.124 and it's the next kind of the targeted

NOTE Confidence: 0.90812826

00:59:21.124 --> 00:59:24.486 therapy 2.0 you can think of it that way.

NOTE Confidence: 0.90812826

00:59:24.490 --> 00:59:26.945 Now it's actually a very

NOTE Confidence: 0.90812826

00:59:26.945 --> 00:59:29.294 developing field right now and.

NOTE Confidence: 0.90812826

00:59:29.294 --> 00:59:31.982 You can see that over the last

NOTE Confidence: 0.90812826

00:59:31.982 --> 00:59:34.225 several years there's been a

NOTE Confidence: 0.90812826

00:59:34.225 --> 00:59:37.003 lot of advances in imaging of

NOTE Confidence: 0.90812826

00:59:37.003 --> 00:59:39.064 neuroendocrine tumors and therapy

NOTE Confidence: 0.90812826

00:59:39.064 --> 00:59:42.100 of new injecting tumors with different.

NOTE Confidence: 0.90812826

00:59:42.100 --> 00:59:45.100 Uhm, agents being an FDA approved,

NOTE Confidence: 0.90812826

00:59:45.100 --> 00:59:46.936 but it's not just neuroendocrine tumors.

NOTE Confidence: 0.90812826

00:59:46.940 --> 00:59:50.370 We're also the field is also developing

NOTE Confidence: 0.90812826

00:59:50.370 --> 00:59:53.288 therapies for prostate cancer for breast

NOTE Confidence: 0.90812826

00:59:53.288 --> 00:59:56.024 cancer and imaging agents as well.

NOTE Confidence: 0.90812826

00:59:56.030 --> 00:59:58.454 So this is an emerging field and we're

NOTE Confidence: 0.90812826

00:59:58.454 --> 01:00:01.177 jumping on this field at Yale by building

NOTE Confidence: 0.90812826

01:00:01.177 --> 01:00:03.408 out their Gnostics group here as well.

NOTE Confidence: 0.761262856

01:00:05.550 --> 01:00:07.692 Many of you have may have

NOTE Confidence: 0.761262856

01:00:07.692 --> 01:00:09.120 already read this article.

NOTE Confidence: 0.761262856

01:00:09.120 --> 01:00:11.494 This is the Seminole work that

NOTE Confidence: 0.761262856

01:00:11.494 --> 01:00:13.846 came out of the net of one trial,

NOTE Confidence: 0.761262856

01:00:13.850 --> 01:00:16.426 which is a phase three trial of

NOTE Confidence: 0.761262856

01:00:16.426 --> 01:00:18.343 lutetium dotatate from mid Kutner

NOTE Confidence: 0.761262856

01:00:18.343 --> 01:00:20.919 endocrine tumors and it led to FDA

NOTE Confidence: 0.761262856

01:00:20.919 --> 01:00:22.739 approval of the lutetium dotatate,

NOTE Confidence: 0.761262856

01:00:22.740 --> 01:00:26.738 or, as it's also known, ludera.

NOTE Confidence: 0.761262856

01:00:26.740 --> 01:00:27.568 Uhm, it, uh,

NOTE Confidence: 0.761262856

01:00:27.568 --> 01:00:29.500 the reason why it was approved was

NOTE Confidence: 0.761262856

01:00:29.564 --> 01:00:31.796 on the basis of prolonged progression,

NOTE Confidence: 0.761262856

01:00:31.800 --> 01:00:36.538 free survival and about 18% of the

NOTE Confidence: 0.761262856

01:00:36.538 --> 01:00:38.908 patient had significant tumor shrinkage.

NOTE Confidence: 0.761262856

01:00:38.910 --> 01:00:41.238 The treatment with Ludera is actually

NOTE Confidence: 0.761262856

01:00:41.238 --> 01:00:43.180 very well tolerated by most,

NOTE Confidence: 0.761262856

01:00:43.180 --> 01:00:46.900 with very few serious side effects.

NOTE Confidence: 0.761262856

01:00:46.900 --> 01:00:49.682 And the way this works is the principle

NOTE Confidence: 0.761262856

01:00:49.682 --> 01:00:51.920 of peptide receptor reuniclus therapy,

NOTE Confidence: 0.761262856

01:00:51.920 --> 01:00:53.180 or, as you all know it,

NOTE Confidence: 0.761262856

01:00:53.180 --> 01:00:55.868 as PRT when you inject the

NOTE Confidence: 0.761262856

01:00:55.868 --> 01:00:57.660 drug into the vein,

NOTE Confidence: 0.761262856

01:00:57.660 --> 01:00:59.400 it travels throughout the body,

NOTE Confidence: 0.761262856

01:00:59.400 --> 01:01:01.195 but then concentrates around the

NOTE Confidence: 0.761262856

01:01:01.195 --> 01:01:02.631 neuroendocrine tumor sites because

NOTE Confidence: 0.761262856

01:01:02.631 --> 01:01:04.365 the neuron decurrent tumors

NOTE Confidence: 0.761262856

01:01:04.365 --> 01:01:07.091 expressed the somatostatin receptors.

NOTE Confidence: 0.761262856

01:01:07.091 --> 01:01:11.393 Once these drugs are once lutetium,

NOTE Confidence: 0.761262856

01:01:11.393 --> 01:01:13.820 dority binds to the semester Staten

NOTE Confidence: 0.761262856

01:01:13.820 --> 01:01:16.940 receptors, the receptors get internalised.

NOTE Confidence: 0.761262856

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01:01:16.940 --> 01:01:20.906 Or endocytosed inside of the cell.

NOTE Confidence: 0.761262856

01:01:20.910 --> 01:01:24.487 The lutetium is able to emit beta

NOTE Confidence: 0.761262856

01:01:24.487 --> 01:01:27.438 particles and result in DNA damage,

NOTE Confidence: 0.761262856

01:01:27.440 --> 01:01:30.050 which can cause tumor cell death,

NOTE Confidence: 0.761262856

01:01:30.050 --> 01:01:31.740 and that can actually cause

NOTE Confidence: 0.761262856

01:01:31.740 --> 01:01:34.402 some reduction in tumor volume.

NOTE Confidence: 0.761262856

01:01:34.402 --> 01:01:37.066 Or prevention of growth.

NOTE Confidence: 0.761262856

01:01:37.070 --> 01:01:38.648 So in conclusion,

NOTE Confidence: 0.761262856

01:01:38.648 --> 01:01:40.752 there Gnostics integrates diagnosis

NOTE Confidence: 0.761262856

01:01:40.752 --> 01:01:44.190 and therapy in a single flat platform.

NOTE Confidence: 0.761262856

01:01:44.190 --> 01:01:46.932 It allows to select right drug

NOTE Confidence: 0.761262856

01:01:46.932 --> 01:01:48.760 for the right patient,

NOTE Confidence: 0.761262856

01:01:48.760 --> 01:01:50.986 lutathera as a lot of you know,

NOTE Confidence: 0.761262856

01:01:50.990 --> 01:01:53.108 is an FDA approved drug for

NOTE Confidence: 0.761262856

01:01:53.108 --> 01:01:55.004 neuroendocrine tumors and has been

NOTE Confidence: 0.761262856

01:01:55.004 --> 01:01:56.688 shown to prolong progression.

NOTE Confidence: 0.761262856

01:01:56.690 --> 01:01:57.680 Free survival.

NOTE Confidence: 0.761262856

01:01:57.680 --> 01:01:59.660 And here at Yale,

NOTE Confidence: 0.761262856

01:01:59.660 --> 01:02:02.922 we are dedicated to develop and bring

NOTE Confidence: 0.761262856

01:02:02.922 --> 01:02:05.699 future theranostics and to help patients.

NOTE Confidence: 0.761262856

01:02:05.700 --> 01:02:08.108 Like you and really advanced the field

NOTE Confidence: 0.761262856

01:02:08.108 --> 01:02:10.759 so that we have better therapies.

NOTE Confidence: 0.814826624285714

01:02:14.510 --> 01:02:16.498 Thank you Doctor Brian.

NOTE Confidence: 0.814826624285714

01:02:16.498 --> 01:02:17.989 So great presentations.

NOTE Confidence: 0.814826624285714

01:02:17.990 --> 01:02:20.198 I really want to thank everybody.

NOTE Confidence: 0.814826624285714

01:02:20.200 --> 01:02:22.300 All of our speakers for their

NOTE Confidence: 0.814826624285714

01:02:22.300 --> 01:02:23.700 time and explaining things,

NOTE Confidence: 0.814826624285714

01:02:23.700 --> 01:02:26.100 and I hope for our audience that gave

NOTE Confidence: 0.814826624285714

01:02:26.100 --> 01:02:28.818 a nice overview of the state of both.

NOTE Confidence: 0.814826624285714

01:02:28.820 --> 01:02:31.076 Kind of what exciting advances we've

NOTE Confidence: 0.814826624285714

01:02:31.076 --> 01:02:34.414 seen in the last decade and really kind

NOTE Confidence: 0.814826624285714

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01:02:34.414 --> 01:02:37.054 of some practical tips on understanding

NOTE Confidence: 0.814826624285714

01:02:37.126 --> 01:02:39.538 your net and on treatment options.

NOTE Confidence: 0.814826624285714

01:02:39.540 --> 01:02:40.932 So we've been trying to answer

NOTE Confidence: 0.814826624285714

01:02:40.932 --> 01:02:42.439 some of the questions in the chat.

NOTE Confidence: 0.814826624285714

01:02:42.440 --> 01:02:45.770 I may select a few of those as we.

NOTE Confidence: 0.814826624285714

01:02:45.770 --> 01:02:47.132 You know, go through our Q&A

NOTE Confidence: 0.814826624285714

01:02:47.132 --> 01:02:48.360 so this is the time.

NOTE Confidence: 0.814826624285714

01:02:48.360 --> 01:02:50.670 Please feel free to ask your questions.

NOTE Confidence: 0.814826624285714

01:02:50.670 --> 01:02:52.616 I'm going to start with just a

NOTE Confidence: 0.814826624285714

01:02:52.616 --> 01:02:54.559 few general ones and I'm gonna

NOTE Confidence: 0.814826624285714

01:02:54.559 --> 01:02:55.947 start with Doctor Kunstman.

NOTE Confidence: 0.814826624285714

01:02:55.950 --> 01:03:00.320 So we we talked a lot about the

NOTE Confidence: 0.814826624285714

01:03:00.320 --> 01:03:02.422 importance of multidisciplinary care for

NOTE Confidence: 0.814826624285714

01:03:02.422 --> 01:03:04.410 patients with neuroendocrine tumors.

NOTE Confidence: 0.814826624285714

01:03:04.410 --> 01:03:06.342 Can you describe what a tumor

NOTE Confidence: 0.814826624285714

01:03:06.342 --> 01:03:08.330 board is for our audience?

NOTE Confidence: 0.814826624285714

01:03:08.330 --> 01:03:09.794 And you know how we talk

NOTE Confidence: 0.814826624285714

01:03:09.794 --> 01:03:11.320 about taking care of patients?

NOTE Confidence: 0.9731946

01:03:13.410 --> 01:03:17.843 Sure. You know, a tumor board is a

NOTE Confidence: 0.9731946

01:03:17.843 --> 01:03:20.174 little bit of a misnomer because it's

NOTE Confidence: 0.9731946

01:03:20.174 --> 01:03:23.147 really a board of a lot of people that

NOTE Confidence: 0.9731946

01:03:23.147 --> 01:03:25.359 treats tumors to discuss patients.

NOTE Confidence: 0.9731946

01:03:25.360 --> 01:03:27.256 But essentially it's a group not

NOTE Confidence: 0.9731946

01:03:27.256 --> 01:03:29.460 unlike the one you see before us,

NOTE Confidence: 0.9731946

01:03:29.460 --> 01:03:32.548 but much larger, including.

NOTE Confidence: 0.9731946

01:03:32.550 --> 01:03:34.209 Possibly many surgeons,

NOTE Confidence: 0.9731946

01:03:34.209 --> 01:03:35.868 many medical oncologists,

NOTE Confidence: 0.9731946

01:03:35.870 --> 01:03:39.638 many radiologists, pathologists.

NOTE Confidence: 0.9731946

01:03:39.640 --> 01:03:41.086 Conventional oncologists etc.

NOTE Confidence: 0.9731946

01:03:41.086 --> 01:03:43.978 All of which are involved in

NOTE Confidence: 0.9731946

01:03:43.978 --> 01:03:46.257 treating a particular tumor type,

NOTE Confidence: 0.9731946

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01:03:46.260 --> 01:03:47.553 site or location.

NOTE Confidence: 0.9731946

01:03:47.553 --> 01:03:50.139 Just as an example at Yale,

NOTE Confidence: 0.9731946

01:03:50.140 --> 01:03:53.325 we have a tumor board that specializes

NOTE Confidence: 0.9731946

01:03:53.325 --> 01:03:55.678 in neuroendocrine and related GI

NOTE Confidence: 0.9731946

01:03:55.678 --> 01:03:57.922 cancers that meets weekly and

NOTE Confidence: 0.9731946

01:03:57.922 --> 01:04:00.876 sometimes you know it's just a matter

NOTE Confidence: 0.9731946

01:04:00.876 --> 01:04:04.494 of a provider really wanting to find

NOTE Confidence: 0.9731946

01:04:04.494 --> 01:04:06.468 out if anybody else has any other

NOTE Confidence: 0.9731946

01:04:06.468 --> 01:04:08.556 ideas or about a change in therapy.

NOTE Confidence: 0.9731946

01:04:08.560 --> 01:04:09.770 Other times it's really an.

NOTE Confidence: 0.9731946

01:04:09.770 --> 01:04:10.788 Open conversation,

NOTE Confidence: 0.9731946

01:04:10.788 --> 01:04:13.842 but I think it's critical because

NOTE Confidence: 0.9731946

01:04:13.842 --> 01:04:16.024 obviously we're all very specialized

NOTE Confidence: 0.9731946

01:04:16.024 --> 01:04:18.296 in what we do and there may be

NOTE Confidence: 0.9731946

01:04:18.296 --> 01:04:19.790 things that one of us doesn't know,

NOTE Confidence: 0.9731946

01:04:19.790 --> 01:04:21.074 and it's actually critical.

NOTE Confidence: 0.9731946

01:04:21.074 --> 01:04:23.406 I think we've all said in the

NOTE Confidence: 0.9731946

01:04:23.406 --> 01:04:25.101 refrain from tonight that you're

NOTE Confidence: 0.9731946

01:04:25.101 --> 01:04:27.203 really treated by a group you're

NOTE Confidence: 0.9731946

01:04:27.203 --> 01:04:29.068 not treated by an individual,

NOTE Confidence: 0.9731946

01:04:29.070 --> 01:04:31.142 and you know the tumor board process

NOTE Confidence: 0.9731946

01:04:31.142 --> 01:04:33.040 is a critical part about that.

NOTE Confidence: 0.948584622

01:04:34.150 --> 01:04:35.570 Yeah, thank you. That's perfect.

NOTE Confidence: 0.948584622

01:04:35.570 --> 01:04:38.314 You know it includes our nuclear medicine

NOTE Confidence: 0.948584622

01:04:38.314 --> 01:04:40.280 physicians or interventional radiologists.

NOTE Confidence: 0.948584622

01:04:40.280 --> 01:04:41.785 All of the people on here are

NOTE Confidence: 0.948584622

01:04:41.785 --> 01:04:43.099 part of that team report.

NOTE Confidence: 0.948584622

01:04:43.100 --> 01:04:45.692 So Dr Madoff, I have a question for

NOTE Confidence: 0.948584622

01:04:45.692 --> 01:04:48.079 you about liver directed therapy.

NOTE Confidence: 0.948584622

01:04:48.080 --> 01:04:49.905 So often you know either

NOTE Confidence: 0.948584622

01:04:49.905 --> 01:04:52.270 myself or even at tumor board,

NOTE Confidence: 0.948584622

01:04:52.270 --> 01:04:54.524 will identify a patient that may be

NOTE Confidence: 0.948584622

01:04:54.524 --> 01:04:56.509 appropriate for liver directed therapy.

NOTE Confidence: 0.948584622

01:04:56.510 --> 01:04:58.085 There are a number to choose from.

NOTE Confidence: 0.948584622

01:04:58.090 --> 01:05:00.472 I don't pick what I generally

NOTE Confidence: 0.948584622

01:05:00.472 --> 01:05:01.663 refer patients to.

NOTE Confidence: 0.948584622

01:05:01.670 --> 01:05:03.800 I let you and your team

NOTE Confidence: 0.948584622

01:05:03.800 --> 01:05:05.760 really help pick which maybe.

NOTE Confidence: 0.948584622

01:05:05.760 --> 01:05:07.470 The optimal treatment for the patient,

NOTE Confidence: 0.948584622

01:05:07.470 --> 01:05:09.087 can you walk us through a little

NOTE Confidence: 0.948584622

01:05:09.087 --> 01:05:11.045 bit what goes into your mind about

NOTE Confidence: 0.948584622

01:05:11.045 --> 01:05:12.857 selecting between some of the available

NOTE Confidence: 0.948584622

01:05:12.909 --> 01:05:14.417 treatments that you mentioned?

NOTE Confidence: 0.948584622

01:05:14.420 --> 01:05:14.710 Yes,

NOTE Confidence: 0.9219332525

01:05:14.720 --> 01:05:17.140 that's a great question.

NOTE Confidence: 0.9219332525

01:05:17.140 --> 01:05:21.332 That is, you know a very difficult question

NOTE Confidence: 0.9219332525

01:05:21.332 --> 01:05:23.509 because unfortunately at this time,

NOTE Confidence: 0.9219332525

01:05:23.510 --> 01:05:25.484 and this is what the retina

NOTE Confidence: 0.9219332525

01:05:25.484 --> 01:05:27.629 trial is supposed to figure out.

NOTE Confidence: 0.9219332525

01:05:27.630 --> 01:05:31.221 Is a what? Is the best treatment

NOTE Confidence: 0.9219332525

01:05:31.221 --> 01:05:35.920 for any particular disease so.

NOTE Confidence: 0.9219332525

01:05:35.920 --> 01:05:39.080 Like I like, I had mentioned, UM,

NOTE Confidence: 0.9219332525

01:05:39.080 --> 01:05:41.910 when patients have very low volume disease.

NOTE Confidence: 0.9219332525

01:05:41.910 --> 01:05:45.249 If they have very small tumors and very what

NOTE Confidence: 0.9219332525

01:05:45.249 --> 01:05:49.007 I would consider non challenging locations.

NOTE Confidence: 0.9219332525

01:05:49.010 --> 01:05:52.052 Which means for example that if it's in the

NOTE Confidence: 0.9219332525

01:05:52.052 --> 01:05:54.808 liver and it's small maybe 1 centimeter,

NOTE Confidence: 0.9219332525

01:05:54.810 --> 01:05:57.246 it's not near any major arteries

NOTE Confidence: 0.9219332525

01:05:57.246 --> 01:05:59.820 or veins or bile ducts.

NOTE Confidence: 0.9219332525

01:05:59.820 --> 01:06:04.545 It should be easily treated with ablation.

NOTE Confidence: 0.9219332525

01:06:04.550 --> 01:06:05.462 That being said,

NOTE Confidence: 0.9219332525

01:06:05.462 --> 01:06:07.590 there are a lot of challenges where

NOTE Confidence: 0.9219332525

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01:06:07.650 --> 01:06:09.988 tumors are sitting in a really difficult

NOTE Confidence: 0.9219332525

01:06:09.990 --> 01:06:13.450 location and either would be surgical.

NOTE Confidence: 0.9219332525

01:06:13.450 --> 01:06:15.990 Candidates could even be potentially,

NOTE Confidence: 0.9219332525

01:06:15.990 --> 01:06:17.425 I guess, and they're not here tonight.

NOTE Confidence: 0.9219332525

01:06:17.430 --> 01:06:20.466 But radiation oncology patients but are

NOTE Confidence: 0.9219332525

01:06:20.466 --> 01:06:24.430 right on a very difficult structure,

NOTE Confidence: 0.9219332525

01:06:24.430 --> 01:06:27.598 so in those cases I probably

NOTE Confidence: 0.9219332525

01:06:27.598 --> 01:06:29.710 would choose emblow therapy.

NOTE Confidence: 0.9219332525

01:06:29.710 --> 01:06:31.645 Now between the envelope or

NOTE Confidence: 0.9219332525

01:06:31.645 --> 01:06:32.806 the embolization therapies,

NOTE Confidence: 0.9219332525

01:06:32.810 --> 01:06:34.777 there's a lot of nuances and that.

NOTE Confidence: 0.9219332525

01:06:34.780 --> 01:06:35.473 Like I said,

NOTE Confidence: 0.9219332525

01:06:35.473 --> 01:06:37.393 I haven't had really a lot of chance

NOTE Confidence: 0.9219332525

01:06:37.393 --> 01:06:39.880 to get into all the details of them,

NOTE Confidence: 0.9219332525

01:06:39.880 --> 01:06:41.170 but you know,

NOTE Confidence: 0.9219332525

01:06:41.170 --> 01:06:43.515 for neuroendocrine where we know

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01:06:43.515 --> 01:06:45.860 that patients live pretty long

01:06:45.940 --> 01:06:48.248 and hopefully prosperous lives.

01:06:50.830 --> 01:06:52.878 You know you have to also consider what's

01:06:52.878 --> 01:06:55.027 going on in the normal underlying liver.

01:06:55.030 --> 01:06:56.750 It's not simply the tumors,

01:06:56.750 --> 01:06:59.430 but it's also what is what you will

01:06:59.430 --> 01:07:01.450 be living with, because technically,

01:07:01.450 --> 01:07:03.905 the tumors themselves are not, even

01:07:03.905 --> 01:07:05.135 though they're you know they're function.

01:07:05.140 --> 01:07:06.444 It could be functional,

01:07:06.444 --> 01:07:08.074 they're not functioning as normal

01:07:08.074 --> 01:07:10.560 liver cells, so you only have you

01:07:10.560 --> 01:07:12.350 know so many liver cells,

01:07:12.350 --> 01:07:16.202 so you know you have to worry about the.

01:07:16.210 --> 01:07:18.200 I guess the collateral damage.

01:07:18.200 --> 01:07:21.210 OK, so I know there's been a lot of interest.

NOTE Confidence: 0.901665892666667

01:07:21.210 --> 01:07:22.578 In for example,

NOTE Confidence: 0.901665892666667

01:07:22.578 --> 01:07:24.402 review embolization radio embolization

NOTE Confidence: 0.901665892666667

01:07:24.402 --> 01:07:28.170 is as we discussed in outpatient therapy.

NOTE Confidence: 0.901665892666667

01:07:28.170 --> 01:07:31.578 It is because it gives radiation

NOTE Confidence: 0.901665892666667

01:07:31.578 --> 01:07:33.850 and not cause ischaemia.

NOTE Confidence: 0.901665892666667

01:07:33.850 --> 01:07:37.360 It doesn't typically result in a lot of pain,

NOTE Confidence: 0.901665892666667

01:07:37.360 --> 01:07:39.820 so the tumors themselves can,

NOTE Confidence: 0.901665892666667

01:07:39.820 --> 01:07:41.468 and there are also.

NOTE Confidence: 0.901665892666667

01:07:41.468 --> 01:07:43.528 It's also guided by vascularity,

NOTE Confidence: 0.901665892666667

01:07:43.530 --> 01:07:45.358 so these neuroendocrine tumors,

NOTE Confidence: 0.901665892666667

01:07:45.358 --> 01:07:48.538 as I showed are really hyper vascular,

NOTE Confidence: 0.901665892666667

01:07:48.538 --> 01:07:50.346 meaning that they are.

NOTE Confidence: 0.901665892666667

01:07:50.350 --> 01:07:51.686 They suck up tumors.

NOTE Confidence: 0.901665892666667

01:07:51.686 --> 01:07:54.769 In a very subtle treatment in a very big way.

NOTE Confidence: 0.901665892666667

01:07:54.770 --> 01:07:57.128 But you know when you're young,

NOTE Confidence: 0.901665892666667

01:07:57.130 --> 01:07:59.398 you're in your 40s and you have

NOTE Confidence: 0.901665892666667

01:07:59.398 --> 01:08:01.849 a therapy or you need a therapy.

NOTE Confidence: 0.901665892666667

01:08:01.850 --> 01:08:04.769 I pretty much try not to give

NOTE Confidence: 0.901665892666667

01:08:04.769 --> 01:08:07.260 radiation because there's only so many

NOTE Confidence: 0.901665892666667

01:08:07.260 --> 01:08:09.582 times you can give the radiation.

NOTE Confidence: 0.901665892666667

01:08:09.590 --> 01:08:11.830 I would say that it's not repeatable

NOTE Confidence: 0.901665892666667

01:08:11.830 --> 01:08:14.421 in the same way an ablation or

NOTE Confidence: 0.901665892666667

01:08:14.421 --> 01:08:16.553 another type of embolization is,

NOTE Confidence: 0.901665892666667

01:08:16.553 --> 01:08:19.368 so these are just thoughts.

NOTE Confidence: 0.901665892666667

01:08:19.370 --> 01:08:21.674 Always go through my head when I'm speaking.

NOTE Confidence: 0.901665892666667

01:08:21.680 --> 01:08:23.894 To a patient and you know what we didn't

NOTE Confidence: 0.901665892666667

01:08:23.894 --> 01:08:25.882 say is that part of interventional

NOTE Confidence: 0.901665892666667

01:08:25.882 --> 01:08:28.350 oncology is even though we're radiologists,

NOTE Confidence: 0.901665892666667

01:08:28.350 --> 01:08:31.275 we see patients the same way that you know,

NOTE Confidence: 0.901665892666667

01:08:31.280 --> 01:08:33.440 Doctor Prince Manor. Dr.

NOTE Confidence: 0.901665892666667

01:08:33.440 --> 01:08:36.500 Kunz see them. So I have my own clinic.

NOTE Confidence: 0.901665892666667

01:08:36.500 --> 01:08:38.480 It's not the way interventional

NOTE Confidence: 0.901665892666667

01:08:38.480 --> 01:08:40.460 radiology used to be practiced,

NOTE Confidence: 0.901665892666667

01:08:40.460 --> 01:08:43.239 but in 20 in the 21st century.

NOTE Confidence: 0.901665892666667

01:08:43.240 --> 01:08:45.320 And that's 2021, you know,

NOTE Confidence: 0.901665892666667

01:08:45.320 --> 01:08:47.000 we do formal consultations,

NOTE Confidence: 0.901665892666667

01:08:47.000 --> 01:08:48.680 go through the images,

NOTE Confidence: 0.901665892666667

01:08:48.680 --> 01:08:51.095 walk patients through the different

NOTE Confidence: 0.901665892666667

01:08:51.095 --> 01:08:52.544 types of scenarios.

NOTE Confidence: 0.901665892666667

01:08:52.550 --> 01:08:55.189 And it's actually very, I must say,

NOTE Confidence: 0.901665892666667

01:08:55.190 --> 01:08:59.266 enjoyable. Great thanks so much.

NOTE Confidence: 0.901665892666667

01:08:59.266 --> 01:08:59.709 Yeah

NOTE Confidence: 0.882669768333333

01:08:59.720 --> 01:09:00.998 that was that was super helpful.

NOTE Confidence: 0.882669768333333

01:09:01.000 --> 01:09:02.855 I mean, I think hopefully the audience

NOTE Confidence: 0.882669768333333

01:09:02.855 --> 01:09:05.298 can get a sense and I think one of

NOTE Confidence: 0.882669768333333

01:09:05.298 --> 01:09:07.055 the real keys takeaways from tonight

NOTE Confidence: 0.882669768333333

01:09:07.055 --> 01:09:09.295 is that we really try tailoring the

NOTE Confidence: 0.882669768333333

01:09:09.295 --> 01:09:11.008 treatment to an individual patient.

NOTE Confidence: 0.882669768333333

01:09:11.008 --> 01:09:13.440 So one size does not fit all.

NOTE Confidence: 0.882669768333333

01:09:13.440 --> 01:09:15.140 There are some general principles

NOTE Confidence: 0.882669768333333

01:09:15.140 --> 01:09:17.479 for how we treat patients with Nets,

NOTE Confidence: 0.882669768333333

01:09:17.480 --> 01:09:19.685 but we really do tailor the treatment.

NOTE Confidence: 0.882669768333333

01:09:19.690 --> 01:09:21.125 And many of those decisions

NOTE Confidence: 0.882669768333333

01:09:21.125 --> 01:09:23.030 are made at our tumor boards.

NOTE Confidence: 0.882669768333333

01:09:23.030 --> 01:09:24.808 So I have a question for Doctor

NOTE Confidence: 0.882669768333333

01:09:24.808 --> 01:09:26.198 Pickart was asked in the Q&A,

NOTE Confidence: 0.882669768333333

01:09:26.200 --> 01:09:27.864 but I'm gonna ask it just broadly so.

NOTE Confidence: 0.882669768333333

01:09:27.870 --> 01:09:30.340 Everyone can see the answer,

NOTE Confidence: 0.882669768333333

01:09:30.340 --> 01:09:33.602 so this is really around like thinking

NOTE Confidence: 0.882669768333333

01:09:33.602 --> 01:09:35.705 about can you speak about examples

NOTE Confidence: 0.882669768333333

01:09:35.705 --> 01:09:37.340 of the details showing lesions

NOTE Confidence: 0.882669768333333

01:09:37.399 --> 01:09:39.229 that are false positive you know,

NOTE Confidence: 0.882669768333333

01:09:39.230 --> 01:09:41.486 and I think that I think was really

NOTE Confidence: 0.882669768333333

01:09:41.486 --> 01:09:43.046 important as we were learning

NOTE Confidence: 0.882669768333333

01:09:43.046 --> 01:09:44.290 to read these scans.

NOTE Confidence: 0.882669768333333

01:09:44.290 --> 01:09:47.055 I think that expert centers were very

NOTE Confidence: 0.882669768333333

01:09:47.055 --> 01:09:49.590 familiar with what is false positive.

NOTE Confidence: 0.882669768333333

01:09:49.590 --> 01:09:51.102 Can you speak to that a little bit dark?

NOTE Confidence: 0.882669768333333

01:09:51.110 --> 01:09:52.660 Oh yeah,

NOTE Confidence: 0.734204334285714

01:09:52.670 --> 01:09:55.610 that's always a concern with any scan,

NOTE Confidence: 0.734204334285714

01:09:55.610 --> 01:09:57.750 regardless whether it's a nuclear

NOTE Confidence: 0.734204334285714

01:09:57.750 --> 01:09:59.890 medicine scan or an atomic.

NOTE Confidence: 0.734204334285714

01:09:59.890 --> 01:10:02.986 Can, because imaging is usually very,

NOTE Confidence: 0.734204334285714

01:10:02.990 --> 01:10:06.890 very helpful to find things, but really,

NOTE Confidence: 0.734204334285714

01:10:06.890 --> 01:10:10.010 the specificity sometimes comes for imaging,

NOTE Confidence: 0.734204334285714

01:10:10.010 --> 01:10:13.498 but usually for at least in the cancer

NOTE Confidence: 0.734204334285714

01:10:13.498 --> 01:10:16.240 requires a tissue confirmation.

NOTE Confidence: 0.734204334285714

01:10:16.240 --> 01:10:18.163 So undoubtedly specifically,

NOTE Confidence: 0.734204334285714

01:10:18.163 --> 01:10:21.378 the concerns are, for example,

NOTE Confidence: 0.734204334285714

01:10:21.378 --> 01:10:23.954 that inflammatory conditions can

NOTE Confidence: 0.734204334285714

01:10:23.954 --> 01:10:25.725 mimic neuroendocrine tumors and

NOTE Confidence: 0.734204334285714

01:10:25.725 --> 01:10:28.350 also there is a concern that other

NOTE Confidence: 0.734204334285714

01:10:28.416 --> 01:10:30.474 cancer in the body can take data.

NOTE Confidence: 0.734204334285714

01:10:30.480 --> 01:10:33.408 State and again creates the confusion.

NOTE Confidence: 0.734204334285714

01:10:33.410 --> 01:10:36.965 Now we have a so called craning scale which

NOTE Confidence: 0.734204334285714

01:10:36.965 --> 01:10:39.234 basically classifieds whether they are

NOTE Confidence: 0.734204334285714

01:10:39.234 --> 01:10:42.520 more active than level but less active.

NOTE Confidence: 0.734204334285714

01:10:42.520 --> 01:10:44.674 The spleen which should be called

NOTE Confidence: 0.734204334285714

01:10:44.674 --> 01:10:46.840 training tree and then the lesions

NOTE Confidence: 0.734204334285714

01:10:46.840 --> 01:10:48.838 that are more active than level

NOTE Confidence: 0.734204334285714

01:10:48.838 --> 01:10:51.332 would be craning 40 with the lesions

NOTE Confidence: 0.734204334285714

01:10:51.332 --> 01:10:53.300 of training tree and training for.

NOTE Confidence: 0.734204334285714

01:10:53.300 --> 01:10:56.422 We have a way more confidence that

NOTE Confidence: 0.734204334285714

01:10:56.422 --> 01:10:59.077 they are actually neuroendocrine tumors

NOTE Confidence: 0.734204334285714

01:10:59.077 --> 01:11:02.749 but again at any critical juncture.

NOTE Confidence: 0.734204334285714

01:11:02.750 --> 01:11:04.220 For the treatment,

NOTE Confidence: 0.734204334285714

01:11:04.220 --> 01:11:06.180 tissue confirmation would still

NOTE Confidence: 0.734204334285714

01:11:06.180 --> 01:11:08.450 be the gold standard.

NOTE Confidence: 0.734204334285714

01:11:08.450 --> 01:11:10.434 And I think we have one good question.

NOTE Confidence: 0.734204334285714

01:11:10.434 --> 01:11:12.546 I'm just going to try to kinda try

NOTE Confidence: 0.734204334285714

01:11:12.546 --> 01:11:14.669 to make it a little bit more broad.

NOTE Confidence: 0.734204334285714

01:11:14.670 --> 01:11:18.604 So basically if someone has pancreatic,

NOTE Confidence: 0.734204334285714

01:11:18.604 --> 01:11:20.232 had lesions,

NOTE Confidence: 0.734204334285714

01:11:20.232 --> 01:11:23.488 which endoscopic are ultrasound,

NOTE Confidence: 0.734204334285714

01:11:23.490 --> 01:11:25.782 couldn't confirm what would be the

NOTE Confidence: 0.734204334285714

01:11:25.782 --> 01:11:28.717 option I can start that we can for

NOTE Confidence: 0.734204334285714

01:11:28.717 --> 01:11:30.709 example do dotted scant and to

NOTE Confidence: 0.734204334285714

01:11:30.782 --> 01:11:33.052 demonstrate high activity above liver

NOTE Confidence: 0.734204334285714

01:11:33.052 --> 01:11:35.808 or spleen to increase the confidence.

NOTE Confidence: 0.734204334285714

01:11:35.808 --> 01:11:38.676 But we actually need a tissue.

NOTE Confidence: 0.734204334285714

01:11:38.680 --> 01:11:42.100 To determine Ki 67 and differentiation

NOTE Confidence: 0.734204334285714

01:11:42.100 --> 01:11:44.380 to guide the management.

NOTE Confidence: 0.734204334285714

01:11:44.380 --> 01:11:47.269 So I'm going to leave to A to our

NOTE Confidence: 0.734204334285714

01:11:47.269 --> 01:11:49.896 panel members to see how they

NOTE Confidence: 0.734204334285714

01:11:49.896 --> 01:11:51.900 would approach this situation.

NOTE Confidence: 0.83558236

01:11:51.910 --> 01:11:53.387 I completely agree and I think I

NOTE Confidence: 0.83558236

01:11:53.387 --> 01:11:54.640 might have answered that question,

NOTE Confidence: 0.83558236

01:11:54.640 --> 01:11:57.120 but yes, I I totally agree with that.

NOTE Confidence: 0.83558236

01:11:57.120 --> 01:11:59.444 I might turn to Doctor Brian and

NOTE Confidence: 0.83558236

01:11:59.444 --> 01:12:02.451 just ask a little bit about you know

NOTE Confidence: 0.83558236

01:12:02.451 --> 01:12:04.049 this peptide receptor radiotherapy

NOTE Confidence: 0.83558236

01:12:04.049 --> 01:12:07.359 that I think has really been a major

NOTE Confidence: 0.83558236

01:12:07.359 --> 01:12:09.837 advance in the landscape of patients.

NOTE Confidence: 0.83558236

01:12:09.840 --> 01:12:11.947 With nuts, can you talk us through

NOTE Confidence: 0.83558236

01:12:11.947 --> 01:12:14.390 the day of a treatment like what?

NOTE Confidence: 0.83558236

01:12:14.390 --> 01:12:15.940 What happens like when patients

NOTE Confidence: 0.83558236

01:12:15.940 --> 01:12:18.160 come in to get this treatment?

NOTE Confidence: 0.83558236

01:12:18.160 --> 01:12:19.448 I think there's a lot of fear

NOTE Confidence: 0.83558236

01:12:19.448 --> 01:12:20.799 because it's a form of radiation,

NOTE Confidence: 0.83558236

01:12:20.800 --> 01:12:23.184 but most of my patients I'll tell you,

NOTE Confidence: 0.83558236

01:12:23.190 --> 01:12:24.460 come back and stated me, Doc,

NOTE Confidence: 0.83558236

01:12:24.460 --> 01:12:25.580 that was a lot easier than I

NOTE Confidence: 0.83558236

01:12:25.580 --> 01:12:26.518 thought it was going to be,

NOTE Confidence: 0.83558236

01:12:26.520 --> 01:12:27.836 but maybe I'll let you walk us

NOTE Confidence: 0.83558236

01:12:27.836 --> 01:12:29.170 through what the treatment is like.

NOTE Confidence: 0.911890768888889

01:12:30.710 --> 01:12:32.475 Oh sure, thank you so

NOTE Confidence: 0.911890768888889

01:12:32.475 --> 01:12:33.887 much for great question.

NOTE Confidence: 0.911890768888889

01:12:33.890 --> 01:12:37.348 Uhm, so the day of treatment is

NOTE Confidence: 0.911890768888889

01:12:37.348 --> 01:12:39.293 actually pretty straightforward when

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NOTE Confidence: 0.911890768888889

01:12:39.293 --> 01:12:42.032 we just started with PRT used to be

NOTE Confidence: 0.911890768888889

01:12:42.032 --> 01:12:44.840 a much longer day and but now we have

NOTE Confidence: 0.911890768888889

01:12:44.918 --> 01:12:47.706 much more advanced amino acid solutions,

NOTE Confidence: 0.911890768888889

01:12:47.706 --> 01:12:51.404 so the experience is much much much easier.

NOTE Confidence: 0.911890768888889

01:12:51.404 --> 01:12:54.372 We have a really nice therapy room

NOTE Confidence: 0.911890768888889

01:12:54.372 --> 01:12:57.299 on the 8th floor of the Smilow

NOTE Confidence: 0.911890768888889

01:12:57.300 --> 01:12:59.392 hospital and it's basically.

NOTE Confidence: 0.911890768888889

01:12:59.392 --> 01:13:03.045 You get a nice view and you

NOTE Confidence: 0.911890768888889

01:13:03.045 --> 01:13:05.943 stay in the nice in the room.

NOTE Confidence: 0.911890768888889

01:13:05.950 --> 01:13:09.520 The room is nicely protected

NOTE Confidence: 0.911890768888889

01:13:09.520 --> 01:13:12.272 and is lined with.

NOTE Confidence: 0.911890768888889

01:13:12.272 --> 01:13:15.282 Protective paperwork and also

NOTE Confidence: 0.911890768888889

01:13:15.282 --> 01:13:17.459 Chuck Stew and I'm sorry I should

NOTE Confidence: 0.911890768888889

01:13:17.459 --> 01:13:19.626 have included a picture of that.

NOTE Confidence: 0.911890768888889

01:13:19.630 --> 01:13:20.830 That would have been really nice,

NOTE Confidence: 0.911890768888889

01:13:20.830 --> 01:13:23.322 but you kind of will see everything

NOTE Confidence: 0.911890768888889

01:13:23.322 --> 01:13:25.649 is protected because we don't want

NOTE Confidence: 0.911890768888889

01:13:25.649 --> 01:13:27.634 any drops or radioactivity anywhere.

NOTE Confidence: 0.911890768888889

01:13:27.640 --> 01:13:30.375 You will receive your amino acid

NOTE Confidence: 0.911890768888889

01:13:30.375 --> 01:13:33.420 infusion and usually you're in a

NOTE Confidence: 0.911890768888889

01:13:33.420 --> 01:13:35.826 comfortable bed and then we will

NOTE Confidence: 0.911890768888889

01:13:35.826 --> 01:13:39.197 stop by and chat with you about the

NOTE Confidence: 0.911890768888889

01:13:39.197 --> 01:13:41.740 therapy and about how we will enter.

NOTE Confidence: 0.911890768888889

01:13:41.740 --> 01:13:43.340 Administer the therapy and discuss

NOTE Confidence: 0.911890768888889

01:13:43.340 --> 01:13:45.402 the side effects and the precautions

NOTE Confidence: 0.911890768888889

01:13:45.402 --> 01:13:47.392 for after the therapy and then

NOTE Confidence: 0.911890768888889

01:13:47.392 --> 01:13:48.676 will administer the therapy,

NOTE Confidence: 0.911890768888889

01:13:48.680 --> 01:13:50.160 which doesn't take very long.

NOTE Confidence: 0.911890768888889

01:13:50.160 --> 01:13:52.075 It's usually in the order

NOTE Confidence: 0.911890768888889

01:13:52.075 --> 01:13:55.870 of like 30 minutes and.

NOTE Confidence: 0.911890768888889

01:13:55.870 --> 01:14:00.268 Ivy and then after that, the immunotherapy.

NOTE Confidence: 0.911890768888889

01:14:00.270 --> 01:14:01.191 Will you know,

NOTE Confidence: 0.911890768888889

01:14:01.191 --> 01:14:02.726 I said infusion will continue

NOTE Confidence: 0.911890768888889

01:14:02.726 --> 01:14:04.528 and you will be discharged,

NOTE Confidence: 0.911890768888889

01:14:04.530 --> 01:14:07.210 so it's pretty straightforward process.

NOTE Confidence: 0.911890768888889

01:14:07.210 --> 01:14:08.430 It's not very exciting,

NOTE Confidence: 0.911890768888889

01:14:08.430 --> 01:14:10.829 but that's how we like to keep it.

NOTE Confidence: 0.911890768888889

01:14:10.830 --> 01:14:13.550 And then we'll spend a lot of time

NOTE Confidence: 0.911890768888889

01:14:13.550 --> 01:14:15.729 just chatting during the infusion.

NOTE Confidence: 0.911890768888889

01:14:15.730 --> 01:14:16.170 So

NOTE Confidence: 0.882228087

01:14:17.270 --> 01:14:18.008 thank you, yeah,

NOTE Confidence: 0.882228087

01:14:18.008 --> 01:14:19.730 and just to follow up on that.

NOTE Confidence: 0.882228087

01:14:19.730 --> 01:14:22.467 So the amino acid infusion for everybody

NOTE Confidence: 0.882228087

01:14:22.467 --> 01:14:25.250 is to help protect the kidneys.

NOTE Confidence: 0.882228087

01:14:25.250 --> 01:14:27.525 This was. Sort of started like decades

NOTE Confidence: 0.882228087

01:14:27.525 --> 01:14:29.637 ago when this therapy was originated

NOTE Confidence: 0.882228087

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01:14:29.637 --> 01:14:31.773 in Europe and it originally used

NOTE Confidence: 0.882228087

01:14:31.773 --> 01:14:33.856 a combination of amino acids that

NOTE Confidence: 0.882228087

01:14:33.856 --> 01:14:36.316 caused quite a bit of nausha now

NOTE Confidence: 0.882228087

01:14:36.316 --> 01:14:38.704 only uses two amino acids called

NOTE Confidence: 0.882228087

01:14:38.704 --> 01:14:41.302 arginine and lysine and and those

NOTE Confidence: 0.882228087

01:14:41.302 --> 01:14:44.340 tend to not 'cause as much nausha,

NOTE Confidence: 0.882228087

01:14:44.340 --> 01:14:45.798 so it's a much better tolerated.

NOTE Confidence: 0.882228087

01:14:45.800 --> 01:14:47.582 In total it's about a four

NOTE Confidence: 0.882228087

01:14:47.582 --> 01:14:49.480 to six hour and infusion,

NOTE Confidence: 0.882228087

01:14:49.480 --> 01:14:51.762 and it's given every two months for

NOTE Confidence: 0.882228087

01:14:51.762 --> 01:14:54.312 a total of four doses is really

NOTE Confidence: 0.882228087

01:14:54.312 --> 01:14:56.562 the standard course just to get.

NOTE Confidence: 0.882228087

01:14:56.570 --> 01:14:57.866 Get focused and sense of that,

NOTE Confidence: 0.882228087

01:14:57.870 --> 01:15:00.138 so thanks, Marion.

NOTE Confidence: 0.882228087

01:15:00.140 --> 01:15:02.124 I'm gonna try to go back to the

NOTE Confidence: 0.882228087

01:15:02.124 --> 01:15:04.145 Q&A and and try to answer a few

NOTE Confidence: 0.882228087

01:15:04.145 --> 01:15:06.300 questions so one I will try answering.

NOTE Confidence: 0.882228087

01:15:06.300 --> 01:15:08.631 So does your clinic have a specific

NOTE Confidence: 0.882228087

01:15:08.631 --> 01:15:10.840 approach to sequencing order of treatments,

NOTE Confidence: 0.882228087

01:15:10.840 --> 01:15:12.892 especially for well differentiated

NOTE Confidence: 0.882228087

01:15:12.892 --> 01:15:15.457 grade three nor under consumers.

NOTE Confidence: 0.882228087

01:15:15.460 --> 01:15:18.286 So I'll mention that this is

NOTE Confidence: 0.882228087

01:15:18.286 --> 01:15:20.170 a relatively new category,

NOTE Confidence: 0.882228087

01:15:20.170 --> 01:15:22.096 as I mentioned in my talk,

NOTE Confidence: 0.882228087

01:15:22.100 --> 01:15:24.200 new under consumers are broken up into

NOTE Confidence: 0.882228087

01:15:24.200 --> 01:15:26.158 this three main buckets grade one,

NOTE Confidence: 0.882228087

01:15:26.160 --> 01:15:28.160 grade two and grade three,

NOTE Confidence: 0.882228087

01:15:28.160 --> 01:15:30.730 also by degree of differentiation.

NOTE Confidence: 0.882228087

01:15:30.730 --> 01:15:32.510 The well differentiated tumors tend

NOTE Confidence: 0.882228087

01:15:32.510 --> 01:15:35.560 to look more like the normal cells in

NOTE Confidence: 0.882228087

01:15:35.560 --> 01:15:37.560 that organ and poorly differentiated

NOTE Confidence: 0.882228087

01:15:37.560 --> 01:15:40.003 tumors tend to look very different

NOTE Confidence: 0.882228087

01:15:40.003 --> 01:15:41.973 and kind of disorganized cells

NOTE Confidence: 0.882228087

01:15:41.973 --> 01:15:45.641 different than the primary organ and

NOTE Confidence: 0.882228087

01:15:45.641 --> 01:15:47.909 so well differentiated generally

NOTE Confidence: 0.882228087

01:15:47.909 --> 01:15:50.990 means that it's slower growing.

NOTE Confidence: 0.882228087

01:15:50.990 --> 01:15:53.426 But grade three is in the faster

NOTE Confidence: 0.882228087

01:15:53.426 --> 01:15:54.122 growing bucket,

NOTE Confidence: 0.882228087

01:15:54.130 --> 01:15:56.500 so I tell patients we usually

NOTE Confidence: 0.882228087

01:15:56.500 --> 01:15:58.720 borrow from both treatment buckets.

NOTE Confidence: 0.882228087

01:15:58.720 --> 01:16:00.736 We worry that these may be a little bit.

NOTE Confidence: 0.882228087

01:16:00.740 --> 01:16:01.432 Faster growing,

NOTE Confidence: 0.882228087

01:16:01.432 --> 01:16:03.854 but we can often use therapies that

NOTE Confidence: 0.882228087

01:16:03.854 --> 01:16:06.725 are reserved for the slower growing tumors,

NOTE Confidence: 0.882228087

01:16:06.730 --> 01:16:08.564 and the question is a great one.

NOTE Confidence: 0.882228087

01:16:08.570 --> 01:16:10.138 And actually this answer

NOTE Confidence: 0.882228087

01:16:10.138 --> 01:16:12.098 generally applies to all Nets.

NOTE Confidence: 0.882228087

01:16:12.100 --> 01:16:15.145 We don't have clinical trials or data

NOTE Confidence: 0.882228087

01:16:15.145 --> 01:16:17.899 that helps guide which what order

NOTE Confidence: 0.882228087

01:16:17.899 --> 01:16:20.635 in which to give these treatments.

NOTE Confidence: 0.882228087

01:16:20.640 --> 01:16:22.201 We are in a fortunate place right

NOTE Confidence: 0.882228087

01:16:22.201 --> 01:16:24.018 now to have a number of therapies,

NOTE Confidence: 0.882228087

01:16:24.020 --> 01:16:26.001 but we don't yet know which one

NOTE Confidence: 0.882228087

01:16:26.001 --> 01:16:27.939 we should start with necessarily,

NOTE Confidence: 0.882228087

01:16:27.940 --> 01:16:29.876 and this is what where we then really

NOTE Confidence: 0.882228087

01:16:29.876 --> 01:16:31.419 tailor the approach to a given.

NOTE Confidence: 0.882228087

01:16:31.420 --> 01:16:33.572 Patients, so for example,

NOTE Confidence: 0.882228087

01:16:33.572 --> 01:16:36.262 if someone is having symptoms,

NOTE Confidence: 0.882228087

01:16:36.270 --> 01:16:38.321 IE pain from spots in the liver

NOTE Confidence: 0.882228087

01:16:38.321 --> 01:16:40.270 or pain from somewhere else,

NOTE Confidence: 0.882228087

01:16:40.270 --> 01:16:42.622 maybe we need to use something

NOTE Confidence: 0.882228087

01:16:42.622 --> 01:16:44.190 that shrinks the cancer.

NOTE Confidence: 0.882228087

01:16:44.190 --> 01:16:46.195 If someone is having symptoms

NOTE Confidence: 0.882228087

01:16:46.195 --> 01:16:47.398 from hormone secretion,

NOTE Confidence: 0.882228087

01:16:47.400 --> 01:16:49.208 we maybe need to use a therapy that

NOTE Confidence: 0.882228087

01:16:49.208 --> 01:16:50.718 helps lower those hormone levels.

NOTE Confidence: 0.882228087

01:16:50.720 --> 01:16:53.415 So all of these things are discussed

NOTE Confidence: 0.882228087

01:16:53.415 --> 01:16:55.697 with this entire treatment team and

NOTE Confidence: 0.882228087

01:16:55.697 --> 01:16:58.580 we help come up with the best plan.

NOTE Confidence: 0.882228087

01:16:58.580 --> 01:17:00.434 I'm gonna answer or ask another

NOTE Confidence: 0.882228087

01:17:00.434 --> 01:17:02.626 question and see if anyone from the

NOTE Confidence: 0.882228087

01:17:02.626 --> 01:17:04.742 group wants to try to answer this.

NOTE Confidence: 0.882228087

01:17:04.742 --> 01:17:07.882 So how common is it for Nets to be a

NOTE Confidence: 0.882228087

01:17:07.882 --> 01:17:10.048 precursor for other forms of cancer?

NOTE Confidence: 0.882228087

01:17:10.050 --> 01:17:13.937 For example bladder cancer or lymphoma, Dr.

NOTE Confidence: 0.882228087

01:17:13.937 --> 01:17:16.313 Kunzman. Do you feel like tackling that one?

NOTE Confidence: 0.93335234

01:17:17.500 --> 01:17:18.802 Yeah, I mean, I think that's

NOTE Confidence: 0.93335234

01:17:18.802 --> 01:17:20.120 actually a very good question,

NOTE Confidence: 0.93335234

01:17:20.120 --> 01:17:22.700 because whenever we talk about.

NOTE Confidence: 0.93335234

01:17:22.700 --> 01:17:26.242 Cancers that can have a more indolent

NOTE Confidence: 0.93335234

01:17:26.242 --> 01:17:30.010 course such as neuroendocrine tumors.

NOTE Confidence: 0.93335234

01:17:30.010 --> 01:17:31.614 It naturally creates a

NOTE Confidence: 0.93335234

01:17:31.614 --> 01:17:33.734 question in your mind you know,

NOTE Confidence: 0.93335234

01:17:33.734 --> 01:17:35.533 is it leading to something more aggressive.

NOTE Confidence: 0.93335234

01:17:35.540 --> 01:17:37.920 Now in the case of bladder cancer?

NOTE Confidence: 0.93335234

01:17:37.920 --> 01:17:41.560 For lymphoma or colon cancer etc etc.

NOTE Confidence: 0.93335234

01:17:41.560 --> 01:17:45.118 Now those are totally distinct entities

NOTE Confidence: 0.93335234

01:17:45.120 --> 01:17:48.240 and neuroendocrine tumors are not

NOTE Confidence: 0.93335234

01:17:48.240 --> 01:17:52.419 precursors pursy to other forms of cancer.

NOTE Confidence: 0.93335234

01:17:52.420 --> 01:17:54.868 So the answer to that question is no,

NOTE Confidence: 0.93335234

01:17:54.870 --> 01:17:57.282 but certainly we do see the

NOTE Confidence: 0.93335234

01:17:57.282 --> 01:17:59.508 differentiation status and the grades

NOTE Confidence: 0.93335234

01:17:59.508 --> 01:18:02.243 sometimes evolve overtime and a

NOTE Confidence: 0.93335234

01:18:02.243 --> 01:18:03.884 previously indolent neuroendocrine

NOTE Confidence: 0.93335234

01:18:03.884 --> 01:18:06.380 tumor can become more aggressive.

NOTE Confidence: 0.93335234

01:18:06.380 --> 01:18:08.171 That's why I think there was one of the

NOTE Confidence: 0.93335234

01:18:08.171 --> 01:18:09.558 questions the chat box about you know,

NOTE Confidence: 0.93335234

01:18:09.560 --> 01:18:13.000 a diagnosis and once removed,

NOTE Confidence: 0.93335234

01:18:13.000 --> 01:18:14.688 what's the next steps?

NOTE Confidence: 0.93335234

01:18:14.688 --> 01:18:15.954 That's why surveillance,

NOTE Confidence: 0.93335234

01:18:15.960 --> 01:18:18.726 and really a long term relationship

NOTE Confidence: 0.93335234

01:18:18.726 --> 01:18:20.570 with your neuroendocrine team

NOTE Confidence: 0.93335234

01:18:20.646 --> 01:18:23.599 is so critical to sort of.

NOTE Confidence: 0.93335234

01:18:23.600 --> 01:18:26.526 Find out about those changes as soon

NOTE Confidence: 0.93335234

01:18:26.526 --> 01:18:28.297 as possible and whether you know the

NOTE Confidence: 0.93335234

01:18:28.297 --> 01:18:30.350 way to mitigate it is with a therapy.

NOTE Confidence: 0.897884436333333

01:18:31.200 --> 01:18:32.360 Yep, great, thank you.

NOTE Confidence: 0.897884436333333

01:18:32.360 --> 01:18:34.392 Well we have about 10 minutes left

NOTE Confidence: 0.897884436333333

01:18:34.392 --> 01:18:36.498 and I am going to end by going around

NOTE Confidence: 0.897884436333333

01:18:36.558 --> 01:18:38.466 and asking all of our panelists

NOTE Confidence: 0.897884436333333

01:18:38.466 --> 01:18:40.550 what they're most hopeful about in

NOTE Confidence: 0.897884436333333

01:18:40.550 --> 01:18:42.575 the field of Narendra consumers.

NOTE Confidence: 0.897884436333333

01:18:42.580 --> 01:18:44.956 What where you hope to see the field go?

NOTE Confidence: 0.897884436333333

01:18:44.960 --> 01:18:46.912 Specifically what you do,

NOTE Confidence: 0.897884436333333

01:18:46.912 --> 01:18:49.840 and I'm I'm going to start

NOTE Confidence: 0.897884436333333

01:18:49.943 --> 01:18:51.728 with Doctor Madoff.

NOTE Confidence: 0.897884436333333

01:18:51.730 --> 01:18:52.976 Sorry to put you on the spot,

NOTE Confidence: 0.90984358

01:18:53.840 --> 01:18:58.648 this is a hard one because as we discussed,

NOTE Confidence: 0.90984358

01:18:58.648 --> 01:19:01.456 I mean interventional radiology

NOTE Confidence: 0.90984358

01:19:01.456 --> 01:19:03.952 interventional oncology has been

NOTE Confidence: 0.90984358

01:19:03.952 --> 01:19:06.374 actually at the forefront for

NOTE Confidence: 0.90984358

01:19:06.374 --> 01:19:09.260 like maybe close to four decades.

NOTE Confidence: 0.90984358

01:19:09.260 --> 01:19:11.367 I used to work at Indy Anderson

NOTE Confidence: 0.90984358

01:19:11.367 --> 01:19:14.101 in Houston and we had some of the

NOTE Confidence: 0.90984358

01:19:14.101 --> 01:19:16.443 pioneering work on envelope therapy for

NOTE Confidence: 0.90984358

01:19:16.443 --> 01:19:20.454 for carcinoid and and and the light.

NOTE Confidence: 0.90984358

01:19:20.460 --> 01:19:23.249 So I would I think would be great

NOTE Confidence: 0.90984358

01:19:23.249 --> 01:19:25.878 and I guess Merriam had kind of

NOTE Confidence: 0.90984358

01:19:25.878 --> 01:19:28.412 alluded to is how interventional

NOTE Confidence: 0.90984358

01:19:28.412 --> 01:19:30.748 radiology or interventional oncology

NOTE Confidence: 0.90984358

01:19:30.748 --> 01:19:34.318 could play a role in theranostics.

NOTE Confidence: 0.90984358

01:19:34.320 --> 01:19:37.500 You know there's been talk

NOTE Confidence: 0.90984358

01:19:37.500 --> 01:19:40.044 years ago about nanomedicine?

NOTE Confidence: 0.90984358

01:19:40.050 --> 01:19:42.535 And, uh, you know the idea was

NOTE Confidence: 0.90984358

01:19:42.535 --> 01:19:44.982 that you have this, you know,

NOTE Confidence: 0.90984358

01:19:44.982 --> 01:19:46.766 nanotechnology that then gets,

NOTE Confidence: 0.90984358

01:19:46.770 --> 01:19:49.740 you know, to the exact target.

NOTE Confidence: 0.90984358

01:19:49.740 --> 01:19:51.870 However, it's been found that

NOTE Confidence: 0.90984358

01:19:51.870 --> 01:19:55.231 most of the most of the material

NOTE Confidence: 0.90984358

01:19:55.231 --> 01:19:58.086 injected never actually makes it.

NOTE Confidence: 0.90984358

01:19:58.090 --> 01:19:58.789 To the target.

NOTE Confidence: 0.90984358

01:19:58.789 --> 01:20:00.420 So you have a lot of stuff

NOTE Confidence: 0.90984358

01:20:00.481 --> 01:20:01.617 going to the target,

NOTE Confidence: 0.90984358

01:20:01.620 --> 01:20:02.640 but you don't actually,

NOTE Confidence: 0.90984358

01:20:02.640 --> 01:20:04.630 but most of it degrades in advance.

NOTE Confidence: 0.90984358

01:20:04.630 --> 01:20:08.056 So with imaging and imaging guidance

NOTE Confidence: 0.90984358

01:20:08.056 --> 01:20:11.016 we could localize these kinds

NOTE Confidence: 0.90984358

01:20:11.016 --> 01:20:14.180 of therapies to the tumor itself

NOTE Confidence: 0.90984358

01:20:14.180 --> 01:20:17.210 without having to go through all

NOTE Confidence: 0.90984358

01:20:17.311 --> 01:20:20.127 the other circulatory issues.

NOTE Confidence: 0.90984358

01:20:20.130 --> 01:20:22.540 And in that way would be able to get a

NOTE Confidence: 0.90984358

01:20:22.603 --> 01:20:24.948 much better and like we talked about,

NOTE Confidence: 0.90984358

01:20:24.950 --> 01:20:25.950 targeted therapy.

NOTE Confidence: 0.796028556

01:20:28.280 --> 01:20:29.935 Great thank you. Maybe I'll

NOTE Confidence: 0.796028556

01:20:29.935 --> 01:20:31.590 pass to Doctor Abovyan next.

NOTE Confidence: 0.9058132

01:20:33.950 --> 01:20:38.060 Thank you well, I went

NOTE Confidence: 0.809812110769231

01:20:38.070 --> 01:20:41.726 into nuclear medicine when I saw PRT as

NOTE Confidence: 0.809812110769231

01:20:41.726 --> 01:20:46.014 I was training at UCSF and I was just

NOTE Confidence: 0.809812110769231

01:20:46.014 --> 01:20:48.480 blown away by these amazing therapies.

NOTE Confidence: 0.809812110769231

01:20:48.480 --> 01:20:51.024 But I just remember watching the

NOTE Confidence: 0.809812110769231

01:20:51.024 --> 01:20:54.185 tumors after party and majority of the

NOTE Confidence: 0.809812110769231

01:20:54.185 --> 01:20:56.402 patients did not have the tumor shrink.

NOTE Confidence: 0.809812110769231

01:20:56.402 --> 01:20:57.646 Yes, they'll have.

NOTE Confidence: 0.809812110769231

01:20:57.646 --> 01:21:00.454 They had improved progression free survival,

NOTE Confidence: 0.809812110769231

01:21:00.460 --> 01:21:03.664 but the tumors were not drinking as much as.

NOTE Confidence: 0.809812110769231

01:21:03.670 --> 01:21:06.330 As I would like to come so

NOTE Confidence: 0.809812110769231

01:21:06.330 --> 01:21:08.705 we have a fantastic key,

NOTE Confidence: 0.809812110769231

01:21:08.710 --> 01:21:10.672 but I really want that radionuclide

NOTE Confidence: 0.809812110769231

01:21:10.672 --> 01:21:12.470 that will make him shrink.

NOTE Confidence: 0.809812110769231

01:21:12.470 --> 01:21:14.780 So I think that's where we're going

NOTE Confidence: 0.809812110769231

01:21:14.780 --> 01:21:17.562 to be heading to and testing the

NOTE Confidence: 0.809812110769231

01:21:17.562 --> 01:21:19.286 radionuclides that can potentially

NOTE Confidence: 0.809812110769231

01:21:19.286 --> 01:21:21.590 make these tumors shrank.

NOTE Confidence: 0.809812110769231

01:21:21.590 --> 01:21:22.982 And also of course,

NOTE Confidence: 0.809812110769231

01:21:22.982 --> 01:21:24.722 work with Doctor Madoff and

NOTE Confidence: 0.809812110769231

01:21:24.722 --> 01:21:26.979 Doctor Parker and Doctor Kunz and

NOTE Confidence: 0.809812110769231

01:21:26.979 --> 01:21:29.412 Doctor Kuzman for for building

NOTE Confidence: 0.809812110769231

01:21:29.412 --> 01:21:31.668 Arthur Gnostics Center so.

NOTE Confidence: 0.896377032222222

01:21:33.140 --> 01:21:34.043 Great thanks ma'am.

NOTE Confidence: 0.896377032222222

01:21:34.043 --> 01:21:35.849 Yes, I'm excited about that too.

NOTE Confidence: 0.896377032222222

01:21:35.850 --> 01:21:36.681 So doctor Pukaar,

NOTE Confidence: 0.896377032222222

01:21:36.681 --> 01:21:38.343 what are you most hopeful about?

NOTE Confidence: 0.68613266625

01:21:40.400 --> 01:21:42.328 Uh, well short term,

NOTE Confidence: 0.68613266625

01:21:42.328 --> 01:21:45.494 obviously we need to develop alternative

NOTE Confidence: 0.68613266625

01:21:45.494 --> 01:21:48.579 centers because we we actually

NOTE Confidence: 0.68613266625

01:21:48.579 --> 01:21:51.840 expect explosion of these therapies

NOTE Confidence: 0.68613266625

01:21:51.840 --> 01:21:53.800 vote for new rendering tumors,

NOTE Confidence: 0.68613266625

01:21:53.800 --> 01:21:55.420 but also for the other cancers.

NOTE Confidence: 0.68613266625

01:21:55.420 --> 01:21:58.676 There are a lot of exciting agents coming

NOTE Confidence: 0.68613266625

01:21:58.680 --> 01:22:02.704 now in terms own on more scientific level.

NOTE Confidence: 0.68613266625

01:22:02.710 --> 01:22:05.536 Probably the goal for your endocrine

NOTE Confidence: 0.68613266625

01:22:05.536 --> 01:22:08.568 tumors is to basically have that

NOTE Confidence: 0.68613266625

01:22:08.568 --> 01:22:11.178 run into real chronic disease.

NOTE Confidence: 0.68613266625

01:22:11.180 --> 01:22:14.340 Doesn't shorten the lion and

NOTE Confidence: 0.68613266625

01:22:14.340 --> 01:22:16.236 doesn't produce morbidity,

NOTE Confidence: 0.68613266625

01:22:16.240 --> 01:22:20.254 so one of the thing on the imaging site.

NOTE Confidence: 0.68613266625

01:22:20.254 --> 01:22:23.560 It would be good for us to develop a

NOTE Confidence: 0.68613266625

01:22:23.560 --> 01:22:25.785 little bit different imaging criteria

NOTE Confidence: 0.68613266625

01:22:25.785 --> 01:22:28.477 which would not lead us to change or

NOTE Confidence: 0.68613266625

01:22:28.480 --> 01:22:31.055 do therapist too frequently before

NOTE Confidence: 0.68613266625

01:22:31.055 --> 01:22:33.630 actually the other prior therapy

NOTE Confidence: 0.68613266625

01:22:33.714 --> 01:22:36.099 is not really stopping working,

NOTE Confidence: 0.68613266625

01:22:36.100 --> 01:22:38.748 which I I think will probably have to

NOTE Confidence: 0.68613266625

01:22:38.748 --> 01:22:41.746 make make a criteria that are specific to.

NOTE Confidence: 0.68613266625

01:22:41.750 --> 01:22:43.574 Neorion Deklin tumors will,

NOTE Confidence: 0.68613266625

01:22:43.574 --> 01:22:45.398 because of other cancers,

NOTE Confidence: 0.68613266625

01:22:45.400 --> 01:22:47.968 are more aggressive and those criteria

NOTE Confidence: 0.68613266625

01:22:47.968 --> 01:22:50.165 probably are too aggressive for

NOTE Confidence: 0.68613266625

01:22:50.165 --> 01:22:52.240 your endocrine purposes and then

NOTE Confidence: 0.68613266625

01:22:52.240 --> 01:22:54.490 obviously which everyone is loading.

NOTE Confidence: 0.68613266625

01:22:54.490 --> 01:22:56.306 I mean, in theory,

NOTE Confidence: 0.68613266625

01:22:56.306 --> 01:22:59.030 if you can minimize the toxicity

NOTE Confidence: 0.68613266625

01:22:59.128 --> 01:23:01.090 to surrounding tissue,

NOTE Confidence: 0.68613266625

01:23:01.090 --> 01:23:02.998 you can actually theoretically

NOTE Confidence: 0.68613266625

01:23:02.998 --> 01:23:05.860 deliver the dose that would eliminate

NOTE Confidence: 0.68613266625

01:23:05.934 --> 01:23:08.178 all your cancers from your body.

NOTE Confidence: 0.68613266625

01:23:08.180 --> 01:23:11.552 No one that ever reached so far

NOTE Confidence: 0.68613266625

01:23:11.552 --> 01:23:13.807 because it toxicity to the.

NOTE Confidence: 0.68613266625

01:23:13.810 --> 01:23:17.464 Normal tissue is was always too limiting,

NOTE Confidence: 0.68613266625

01:23:17.470 --> 01:23:20.067 but there is at least that are

NOTE Confidence: 0.68613266625

01:23:20.067 --> 01:23:21.660 at a theoretical goal.

NOTE Confidence: 0.68613266625

01:23:21.660 --> 01:23:25.685 And just to mention along those lines

NOTE Confidence: 0.68613266625

01:23:25.685 --> 01:23:28.542 will be getting a probably by the

NOTE Confidence: 0.68613266625

01:23:28.542 --> 01:23:30.870 end of the next year at machine,

NOTE Confidence: 0.68613266625

01:23:30.870 --> 01:23:33.026 which is called reflection,

NOTE Confidence: 0.68613266625

01:23:33.026 --> 01:23:36.260 which can use the pet guidance

NOTE Confidence: 0.68613266625

01:23:36.354 --> 01:23:39.636 to eliminate a lot of metastatic

NOTE Confidence: 0.68613266625

01:23:39.636 --> 01:23:42.612 sites with radiation which is going

NOTE Confidence: 0.68613266625

01:23:42.612 --> 01:23:44.388 to add another excellent.

NOTE Confidence: 0.68613266625

01:23:44.390 --> 01:23:46.826 Way to minimize your tumors and

NOTE Confidence: 0.68613266625

01:23:46.826 --> 01:23:49.574 really enable you to live long

NOTE Confidence: 0.68613266625

01:23:49.574 --> 01:23:52.189 and prosperous life without you

NOTE Confidence: 0.68613266625

01:23:52.189 --> 01:23:54.150 rendering tumors defining you,

NOTE Confidence: 0.68613266625

01:23:54.150 --> 01:23:56.775 but rather you living your normal life.

NOTE Confidence: 0.833222414285714

01:23:58.600 --> 01:24:01.827 Thank you Doctor Kinsman any final thoughts?

NOTE Confidence: 0.833222414285714

01:24:01.830 --> 01:24:03.900 Things you're hopeful for. Yeah,

NOTE Confidence: 0.934327139411765

01:24:03.910 --> 01:24:06.185 I have to say actually the thing

NOTE Confidence: 0.934327139411765

01:24:06.185 --> 01:24:08.167 I'm hopeful for is the other

NOTE Confidence: 0.934327139411765

01:24:08.167 --> 01:24:11.430 people on this call because.

NOTE Confidence: 0.934327139411765

01:24:11.430 --> 01:24:14.750 You know, as I think we let me explain,

NOTE Confidence: 0.934327139411765

01:24:14.750 --> 01:24:15.850 what I mean by that.

NOTE Confidence: 0.934327139411765

01:24:15.850 --> 01:24:18.586 So as I think you may have gathered,

NOTE Confidence: 0.934327139411765

01:24:18.590 --> 01:24:20.214 you know some of the surgeries that

NOTE Confidence: 0.934327139411765

01:24:20.214 --> 01:24:22.308 we do are technically quite complex,

NOTE Confidence: 0.934327139411765

01:24:22.310 --> 01:24:25.490 but there's a limit to what we can do in

NOTE Confidence: 0.934327139411765

01:24:25.570 --> 01:24:28.874 the operating room in terms of who's a

NOTE Confidence: 0.934327139411765

01:24:28.874 --> 01:24:32.089 candidate for surgery and through the work,

NOTE Confidence: 0.934327139411765

01:24:32.090 --> 01:24:34.530 both from a diagnostic standpoint.

NOTE Confidence: 0.934327139411765

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01:24:34.530 --> 01:24:36.876 So theranostic standpoint and you know,

NOTE Confidence: 0.934327139411765

01:24:36.880 --> 01:24:38.962 right now, I think Doctor Madoff

NOTE Confidence: 0.934327139411765

01:24:38.962 --> 01:24:41.439 alluded to some of his techniques.

NOTE Confidence: 0.934327139411765

01:24:41.440 --> 01:24:44.165 We're operating on and potentially

NOTE Confidence: 0.934327139411765

01:24:44.165 --> 01:24:47.890 curing people that would have never been

NOTE Confidence: 0.934327139411765

01:24:47.890 --> 01:24:51.940 candidates for surgery just a few years ago.

NOTE Confidence: 0.934327139411765

01:24:51.940 --> 01:24:54.201 You know, when I was in medical

NOTE Confidence: 0.934327139411765

01:24:54.201 --> 01:24:57.178 school and I was starting the journey

NOTE Confidence: 0.934327139411765

01:24:57.178 --> 01:24:59.588 to becoming a surgical oncologist.

NOTE Confidence: 0.934327139411765

01:24:59.590 --> 01:25:00.673 You know people were saying, well,

NOTE Confidence: 0.934327139411765

01:25:00.673 --> 01:25:02.374 by the time you finish your training,

NOTE Confidence: 0.934327139411765

01:25:02.380 --> 01:25:03.004 you know cancer.

NOTE Confidence: 0.934327139411765

01:25:03.004 --> 01:25:04.460 It's all going to be figured out.

NOTE Confidence: 0.934327139411765

01:25:04.460 --> 01:25:05.890 You know you're not gonna.

NOTE Confidence: 0.934327139411765

01:25:05.890 --> 01:25:06.730 You're not gonna need anything.

NOTE Confidence: 0.934327139411765

01:25:06.730 --> 01:25:09.285 You're not gonna have anything to do.

NOTE Confidence: 0.934327139411765

01:25:09.290 --> 01:25:11.270 In reality, we're busier than ever,

NOTE Confidence: 0.934327139411765

01:25:11.270 --> 01:25:13.830 because patients that previously

NOTE Confidence: 0.934327139411765

01:25:13.830 --> 01:25:16.430 were basically told, you know,

NOTE Confidence: 0.934327139411765

01:25:16.430 --> 01:25:19.150 we can only offer you best supportive care.

NOTE Confidence: 0.934327139411765

01:25:19.150 --> 01:25:20.490 You know,

NOTE Confidence: 0.934327139411765

01:25:20.490 --> 01:25:23.840 potentially through portal vein embolization.

NOTE Confidence: 0.934327139411765

01:25:23.840 --> 01:25:26.668 You know we can reset that liver

NOTE Confidence: 0.934327139411765

01:25:26.668 --> 01:25:27.880 tumor potentially through.

NOTE Confidence: 0.934327139411765

01:25:27.880 --> 01:25:29.516 You know, pet dotate.

NOTE Confidence: 0.934327139411765

01:25:29.516 --> 01:25:31.970 We can identify that last reservoir

NOTE Confidence: 0.934327139411765

01:25:32.045 --> 01:25:33.840 of disease and taken out,

NOTE Confidence: 0.934327139411765

01:25:33.840 --> 01:25:35.316 you know, so it's a really,

NOTE Confidence: 0.934327139411765

01:25:35.320 --> 01:25:38.330 really exciting time, I think.

NOTE Confidence: 0.934327139411765

01:25:38.330 --> 01:25:39.095 And you know,

NOTE Confidence: 0.934327139411765

01:25:39.095 --> 01:25:40.880 surgery is like the only field in

NOTE Confidence: 0.934327139411765

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01:25:40.935 --> 01:25:42.615 medicine that's actively working

NOTE Confidence: 0.934327139411765

01:25:42.615 --> 01:25:44.295 towards its own obsolescence.

NOTE Confidence: 0.934327139411765

01:25:44.300 --> 01:25:45.575 But you know,

NOTE Confidence: 0.934327139411765

01:25:45.575 --> 01:25:48.550 I'm more excited than ever because there's

NOTE Confidence: 0.934327139411765

01:25:48.627 --> 01:25:51.732 so many folks that were able to help now.

NOTE Confidence: 0.934327139411765

01:25:51.740 --> 01:25:52.936 That perhaps you know,

NOTE Confidence: 0.934327139411765

01:25:52.936 --> 01:25:54.730 in the very recent past didn't

NOTE Confidence: 0.934327139411765

01:25:54.794 --> 01:25:56.996 necessarily have those kind of options,

NOTE Confidence: 0.934327139411765

01:25:57.000 --> 01:25:59.824 so that's it's a time of really good,

NOTE Confidence: 0.934327139411765

01:25:59.830 --> 01:26:00.660 great excitement.

NOTE Confidence: 0.88173473

01:26:01.630 --> 01:26:03.952 Great, thank you know I I

NOTE Confidence: 0.88173473

01:26:03.952 --> 01:26:06.490 share the hope on this call.

NOTE Confidence: 0.88173473

01:26:06.490 --> 01:26:08.086 Mentioned by all of the speakers,

NOTE Confidence: 0.88173473

01:26:08.090 --> 01:26:09.050 and I think you know,

NOTE Confidence: 0.88173473

01:26:09.050 --> 01:26:10.856 having I've been in this field now

NOTE Confidence: 0.88173473

01:26:10.856 --> 01:26:12.925 for about 12 years and I think you

NOTE Confidence: 0.88173473

01:26:12.925 --> 01:26:14.770 know over the course of that time,

NOTE Confidence: 0.88173473

01:26:14.770 --> 01:26:17.213 I've taken care of some patients for

NOTE Confidence: 0.88173473

01:26:17.213 --> 01:26:19.672 that entire duration of time and they

NOTE Confidence: 0.88173473

01:26:19.672 --> 01:26:21.694 in their lifetimes have benefited from

NOTE Confidence: 0.88173473

01:26:21.756 --> 01:26:24.326 clinical advances through clinical trials.

NOTE Confidence: 0.88173473

01:26:24.330 --> 01:26:26.298 So I think I'm really hopeful

NOTE Confidence: 0.88173473

01:26:26.298 --> 01:26:27.610 about these advances also,

NOTE Confidence: 0.88173473

01:26:27.610 --> 01:26:29.162 so I just want to thank the speakers

NOTE Confidence: 0.88173473

01:26:29.162 --> 01:26:30.607 so much for their time tonight.

NOTE Confidence: 0.88173473

01:26:30.610 --> 01:26:32.955 I want to thank the audience for

NOTE Confidence: 0.88173473

01:26:32.955 --> 01:26:34.950 your listening and participation.

NOTE Confidence: 0.88173473

01:26:34.950 --> 01:26:36.830 This the this whole talk.

NOTE Confidence: 0.88173473

01:26:36.830 --> 01:26:38.035 Will be available online so

NOTE Confidence: 0.88173473

01:26:38.035 --> 01:26:39.450 you can go back to it.

NOTE Confidence: 0.88173473

01:26:39.450 --> 01:26:42.706 You can share with your friends and family.

NOTE Confidence: 0.88173473

01:26:42.710 --> 01:26:45.385 We're certainly available for for

NOTE Confidence: 0.88173473

01:26:45.385 --> 01:26:47.525 questions and or consultations,

NOTE Confidence: 0.88173473

01:26:47.530 --> 01:26:48.204 but thanks,

NOTE Confidence: 0.88173473

01:26:48.204 --> 01:26:50.226 we're excited to really build the.

NOTE Confidence: 0.88173473

01:26:50.230 --> 01:26:51.538 Net community at Yale.

NOTE Confidence: 0.88173473

01:26:51.538 --> 01:26:52.519 So thanks everybody.