WEBVTT

NOTE duration:"01:01:27.0040000"

NOTE language:en-us

NOTE Confidence: 0.835817813873291

00:00:00.000 --> 00:00:02.586 Logon wanna thank everyone for for

NOTE Confidence: 0.835817813873291

00:00:02.586 --> 00:00:05.242 joining us for Cancer Center grand

NOTE Confidence: 0.835817813873291

00:00:05.242 --> 00:00:08.210 rounds and we really are very fortunate

NOTE Confidence: 0.835817813873291

00:00:08.210 --> 00:00:11.406 to have a special guest speaker today.

NOTE Confidence: 0.835817813873291

00:00:11.410 --> 00:00:12.739 Doctor Roy Herps.

NOTE Confidence: 0.835817813873291

00:00:12.739 --> 00:00:15.397 Before I introduce Troy as some

NOTE Confidence: 0.835817813873291

00:00:15.397 --> 00:00:17.977 of you may have over heard,

NOTE Confidence: 0.835817813873291

00:00:17.980 --> 00:00:21.158 I alluded to just want to remind

NOTE Confidence: 0.835817813873291

00:00:21.158 --> 00:00:23.423 everybody that tomorrow at 5:00

NOTE Confidence: 0.835817813873291

00:00:23.423 --> 00:00:25.859 o'clock we have a special smile.

NOTE Confidence: 0.835817813873291

00:00:25.860 --> 00:00:28.926 Oh, town Hall with a guest Speaker,

NOTE Confidence: 0.835817813873291

00:00:28.930 --> 00:00:31.558 Doctor Ned Sharpless, the director of

NOTE Confidence: 0.835817813873291

00:00:31.558 --> 00:00:33.707 the National Cancer Institute, too.

NOTE Confidence: 0.835817813873291

00:00:33.707 --> 00:00:36.089 Provide some comments and answer questions.

NOTE Confidence: 0.835817813873291

00:00:36.090 --> 00:00:39.573 As many of you may have seen on Friday,

NOTE Confidence: 0.835817813873291

00:00:39.580 --> 00:00:42.136 Doctor Sharp lez offered up his

NOTE Confidence: 0.835817813873291

00:00:42.136 --> 00:00:44.943 priorities for the NCI for the coming

NOTE Confidence: 0.835817813873291

00:00:44.943 --> 00:00:47.779 year and I think it would be great

NOTE Confidence: 0.835817813873291

00:00:47.779 --> 00:00:50.795 to get clarity on what his plans are,

NOTE Confidence: 0.835817813873291

00:00:50.800 --> 00:00:53.332 how that aligns with our initiatives

NOTE Confidence: 0.835817813873291

00:00:53.332 --> 00:00:56.427 and interests and to assist in general

NOTE Confidence: 0.835817813873291

00:00:56.427 --> 00:00:58.647 have him answer our questions.

NOTE Confidence: 0.835817813873291

00:00:58.650 --> 00:01:00.594 So without further ado,

NOTE Confidence: 0.835817813873291

00:01:00.594 --> 00:01:03.024 let me introduce our speaker,

NOTE Confidence: 0.835817813873291

00:01:03.030 --> 00:01:05.470 who really requires no introduction.

NOTE Confidence: 0.835817813873291

00:01:05.470 --> 00:01:06.796 Doctor Roy purposes,

NOTE Confidence: 0.835817813873291

00:01:06.796 --> 00:01:09.006 the Ensign Professor of Medicine

NOTE Confidence: 0.835817813873291

00:01:09.006 --> 00:01:10.830 Professor of pharmacology,

NOTE Confidence: 0.835817813873291

00:01:10.830 --> 00:01:13.260 the chief of medical oncology,

NOTE Confidence: 0.835817813873291

00:01:13.260 --> 00:01:15.895 and The Associated Cancer Center

NOTE Confidence: 0.835817813873291

00:01:15.895 --> 00:01:18.003 director for translation and

NOTE Confidence: 0.835817813873291

00:01:18.003 --> 00:01:20.566 research at the Yale Cancer Center.

NOTE Confidence: 0.835817813873291

00:01:20.570 --> 00:01:22.466 Roy, as you know,

NOTE Confidence: 0.835817813873291

00:01:22.466 --> 00:01:24.362 is an internationally recognized

NOTE Confidence: 0.835817813873291

00:01:24.362 --> 00:01:27.357 leader in innovation in the treatment

NOTE Confidence: 0.835817813873291

00:01:27.357 --> 00:01:29.812 and research of lung cancer.

NOTE Confidence: 0.835817813873291

00:01:29.820 --> 00:01:32.262 His efforts really over the many

NOTE Confidence: 0.835817813873291

00:01:32.262 --> 00:01:35.236 years of his career have have really

NOTE Confidence: 0.835817813873291

00:01:35.236 --> 00:01:37.768 led have changed the landscape of

NOTE Confidence: 0.835817813873291

00:01:37.768 --> 00:01:40.977 our understanding of the biology and

NOTE Confidence: 0.835817813873291

00:01:40.977 --> 00:01:43.677 frankly launching new therapies both

NOTE Confidence: 0.835817813873291

00:01:43.680 --> 00:01:46.452 with respect to targeted therapy and

NOTE Confidence: 0.835817813873291

00:01:46.452 --> 00:01:48.210 more recently, with immunotherapy.

NOTE Confidence: 0.835817813873291

00:01:48.210 --> 00:01:50.285 And that work continues with

NOTE Confidence: 0.835817813873291

00:01:50.285 --> 00:01:52.460 such impact in productivity.

NOTE Confidence: 0.835817813873291

00:01:52.460 --> 00:01:53.406 In along,

NOTE Confidence: 0.835817813873291

00:01:53.406 --> 00:01:55.298 Roy's accomplishments span far

NOTE Confidence: 0.835817813873291

00:01:55.298 --> 00:01:58.151 beyond just his ability to innovate

NOTE Confidence: 0.835817813873291

00:01:58.151 --> 00:02:00.366 as a researcher and clinician.

NOTE Confidence: 0.835817813873291

00:02:00.370 --> 00:02:02.960 But also as a leader,

NOTE Confidence: 0.835817813873291

00:02:02.960 --> 00:02:07.088 having brought the spore to the long program,

NOTE Confidence: 0.835817813873291

00:02:07.090 --> 00:02:09.058 his leadership along program,

NOTE Confidence: 0.835817813873291

00:02:09.058 --> 00:02:13.809 which now makes it one of the most effective,

NOTE Confidence: 0.835817813873291

00:02:13.810 --> 00:02:15.878 most impactful thoracic oncology

NOTE Confidence: 0.835817813873291

00:02:15.878 --> 00:02:17.946 programs on the planet,

NOTE Confidence: 0.835817813873291

00:02:17.950 --> 00:02:20.014 Roy has beyond that,

NOTE Confidence: 0.835817813873291

00:02:20.014 --> 00:02:22.078 trained countless leaders globally.

NOTE Confidence: 0.835817813873291

00:02:22.080 --> 00:02:24.665 And frankly, the influence of

NOTE Confidence: 0.835817813873291

00:02:24.665 --> 00:02:27.250 his commitment to clinical care,

NOTE Confidence: 0.835817813873291

00:02:27.250 --> 00:02:30.376 education, and research really can be.

NOTE Confidence: 0.835817813873291

00:02:30.380 --> 00:02:32.330 Is beyond measurement so really

NOTE Confidence: 0.835817813873291

00:02:32.330 --> 00:02:35.026 pleased to have Roy share with us

NOTE Confidence: 0.835817813873291

00:02:35.026 --> 00:02:37.036 his perspectives on the work and

NOTE Confidence: 0.835817813873291

00:02:37.036 --> 00:02:39.085 you know the accomplishments he's

NOTE Confidence: 0.835817813873291

00:02:39.085 --> 00:02:41.689 had recently and over the years,

NOTE Confidence: 0.835817813873291

00:02:41.690 --> 00:02:43.250 so Roy, thank you.

NOTE Confidence: 0.832039654254913

00:02:43.800 --> 00:02:46.050 Thanks Charlie for that wonderful

NOTE Confidence: 0.832039654254913

00:02:46.050 --> 00:02:48.975 introduction and thank you Paula and the

NOTE Confidence: 0.832039654254913

00:02:48.975 --> 00:02:51.375 team here at North Haven where I was

NOTE Confidence: 0.832039654254913

00:02:51.448 --> 00:02:53.884 seeing patients this morning who sent me

NOTE Confidence: 0.832039654254913

00:02:53.884 --> 00:02:56.043 up in this wonderful conference room.

NOTE Confidence: 0.832039654254913

00:02:56.043 --> 00:02:58.269 We're getting back to some normalcy.

NOTE Confidence: 0.832039654254913

00:02:58.270 --> 00:03:00.496 'cause staff are all having lunch.

NOTE Confidence: 0.832039654254913

00:03:00.500 --> 00:03:03.164 We put a lunch out today and watching

NOTE Confidence: 0.832039654254913

00:03:03.164 --> 00:03:05.203 from distant locations so I'm really

NOTE Confidence: 0.832039654254913

00:03:05.203 --> 00:03:07.670 happy to be here today to give

NOTE Confidence: 0.832039654254913

00:03:07.670 --> 00:03:09.426 this grand rounds translational

NOTE Confidence: 0.832039654254913

00:03:09.426 --> 00:03:11.621 lung Cancer Research at Yale.

NOTE Confidence: 0.832039654254913

00:03:11.630 --> 00:03:14.618 10 years in review.

NOTE Confidence: 0.832039654254913

00:03:14.620 --> 00:03:16.150 And here in my disclosures.

NOTE Confidence: 0.842007577419281

00:03:19.030 --> 00:03:20.920 So long answer of course is

NOTE Confidence: 0.842007577419281

00:03:20.920 --> 00:03:22.730 a major problem in cancer.

NOTE Confidence: 0.842007577419281

00:03:22.730 --> 00:03:24.662 In medicine you can see on

NOTE Confidence: 0.842007577419281

00:03:24.662 --> 00:03:26.759 the left with the pie chart.

NOTE Confidence: 0.842007577419281

00:03:26.760 --> 00:03:28.716 Lung cancer is the biggest single

NOTE Confidence: 0.842007577419281

00:03:28.716 --> 00:03:31.444 piece of that pie you know you can

NOTE Confidence: 0.842007577419281

00:03:31.444 --> 00:03:33.478 see breast and prostate right there.

NOTE Confidence: 0.842007577419281

00:03:33.480 --> 00:03:34.756 Of course GI cancers,

NOTE Confidence: 0.842007577419281

00:03:34.756 --> 00:03:36.670 but the leading cause of cancer

NOTE Confidence: 0.842007577419281

00:03:36.734 --> 00:03:38.178 death in most countries,

NOTE Confidence: 0.842007577419281

00:03:38.180 --> 00:03:41.156 84% of lung cancer is non small cell

NOTE Confidence: 0.842007577419281

00:03:41.156 --> 00:03:44.109 lung cancer and more than half present

NOTE Confidence: 0.842007577419281

00:03:44.109 --> 00:03:46.940 in the advancement of static setting.

NOTE Confidence: 0.842007577419281

00:03:46.940 --> 00:03:48.782 That tobacco is the single largest

NOTE Confidence: 0.842007577419281

00:03:48.782 --> 00:03:50.614 preventable cause of lung cancer and

NOTE Confidence: 0.842007577419281

00:03:50.614 --> 00:03:52.525 cancer in general and in lung cancer.

NOTE Confidence: 0.842007577419281

00:03:52.530 --> 00:03:54.000 We have actionable genetic mutations,

NOTE Confidence: 0.842007577419281

00:03:54.000 --> 00:03:56.044 so those are mostly in non smokers.

NOTE Confidence: 0.842007577419281

00:03:56.050 --> 00:03:59.106 But there's been a great deal of progress

NOTE Confidence: 0.842007577419281

00:03:59.106 --> 00:04:02.369 and I'm going to talk about that today.

NOTE Confidence: 0.842007577419281

00:04:02.370 --> 00:04:04.428 Well, I went into lung cancer when

NOTE Confidence: 0.842007577419281

00:04:04.428 --> 00:04:06.926 I was a fellow at the Dana Farber

NOTE Confidence: 0.842007577419281

00:04:06.926 --> 00:04:09.551 in the mid 90s and this was the

NOTE Confidence: 0.842007577419281

00:04:09.551 --> 00:04:11.903 status of lung cancer at that time.

NOTE Confidence: 0.842007577419281

00:04:11.910 --> 00:04:13.098 And you might ask,

NOTE Confidence: 0.842007577419281

00:04:13.098 --> 00:04:15.410 why did I go into the field?

NOTE Confidence: 0.842007577419281

00:04:15.410 --> 00:04:17.312 You can see here's survival curves

NOTE Confidence: 0.842007577419281

00:04:17.312 --> 00:04:18.945 in progression free survival curves

NOTE Confidence: 0.842007577419281

00:04:18.945 --> 00:04:20.495 for patients with lung cancer.

NOTE Confidence: 0.842007577419281

00:04:20.500 --> 00:04:22.540 This was the top trial at the time

NOTE Confidence: 0.842007577419281

00:04:22.540 --> 00:04:24.309 that took platinum plus gemcitabine

NOTE Confidence: 0.842007577419281

00:04:24.309 --> 00:04:26.309 or paclitaxel docetaxel and the

NOTE Confidence: 0.842007577419281

00:04:26.309 --> 00:04:28.584 bottom line is all of the regiments

NOTE Confidence: 0.842007577419281

00:04:28.584 --> 00:04:29.716 were about the same.

NOTE Confidence: 0.842007577419281

00:04:29.720 --> 00:04:31.310 The one year survival 33%

NOTE Confidence: 0.842007577419281

00:04:31.310 --> 00:04:32.930 median survival only 7.9 months.

NOTE Confidence: 0.842007577419281

00:04:32.930 --> 00:04:34.580 So if you have a diagnosis

NOTE Confidence: 0.842007577419281

00:04:34.580 --> 00:04:35.680 of metastatic lung cancer,

NOTE Confidence: 0.842007577419281

00:04:35.680 --> 00:04:37.330 it wasn't really that much hope.

NOTE Confidence: 0.842007577419281

00:04:37.330 --> 00:04:38.710 There were no predictive markers.

NOTE Confidence: 0.842007577419281

00:04:38.710 --> 00:04:40.910 So why did I go into the field?

NOTE Confidence: 0.842007577419281

00:04:40.910 --> 00:04:42.280 Well, two reasons I happened

NOTE Confidence: 0.842007577419281

00:04:42.280 --> 00:04:43.930 to meet a fellow Tom Fry,

NOTE Confidence: 0.842007577419281

00:04:43.930 --> 00:04:45.855 a meal fried actually yell medical graduate.

NOTE Confidence: 0.842007577419281

00:04:45.860 --> 00:04:48.060 He took me under his wing and said,

NOTE Confidence: 0.842007577419281

00:04:48.060 --> 00:04:49.340 well, translational research in this

NOTE Confidence: 0.842007577419281

00:04:49.340 --> 00:04:51.359 field can only be a positive thing.

NOTE Confidence: 0.842007577419281

00:04:51.360 --> 00:04:53.010 Give it a try and two,

NOTE Confidence: 0.842007577419281

00:04:53.010 --> 00:04:54.654 it was really the only job

NOTE Confidence: 0.842007577419281

00:04:54.654 --> 00:04:55.476 available back then,

NOTE Confidence: 0.842007577419281

00:04:55.480 --> 00:04:56.560 so I took it.

NOTE Confidence: 0.842007577419281

00:04:56.560 --> 00:04:59.266 Now of course you know the field is very

NOTE Confidence: 0.842007577419281

00:04:59.266 --> 00:05:02.239 competitive to work in and I'll show you why.

NOTE Confidence: 0.842007577419281

00:05:02.240 --> 00:05:05.498 So paradigm shift was clearly needed.

NOTE Confidence: 0.842007577419281

00:05:05.500 --> 00:05:07.390 So here you can see the

NOTE Confidence: 0.842007577419281

00:05:07.390 --> 00:05:08.335 lung cancer mortality,

NOTE Confidence: 0.842007577419281

00:05:08.340 --> 00:05:10.538 this being from the American Cancer Society.

NOTE Confidence: 0.842007577419281

00:05:10.540 --> 00:05:12.245 And there really is progress

NOTE Confidence: 0.842007577419281

00:05:12.245 --> 00:05:14.593 being made men up top and women

NOTE Confidence: 0.842007577419281

00:05:14.593 --> 00:05:16.881 up on the bottom and you can see

NOTE Confidence: 0.842007577419281

00:05:16.955 --> 00:05:18.484 51% decline since 1990 mortality.

NOTE Confidence: 0.842007577419281

00:05:18.484 --> 00:05:20.806 Now some of that is incident so

NOTE Confidence: 0.842007577419281

00:05:20.806 --> 00:05:22.480 you can see the incidence rates

NOTE Confidence: 0.842007577419281

00:05:22.480 --> 00:05:24.349 are going down but mortality is

NOTE Confidence: 0.842007577419281

00:05:24.349 --> 00:05:26.287 going down in excess of incidents.

NOTE Confidence: 0.842007577419281

00:05:26.290 --> 00:05:28.090 So clearly we're making progress

NOTE Confidence: 0.842007577419281

00:05:28.090 --> 00:05:30.966 and I'm going to tell you a little

NOTE Confidence: 0.842007577419281

00:05:30.966 --> 00:05:32.970 bit about that during this talk.

NOTE Confidence: 0.842007577419281

00:05:32.970 --> 00:05:33.486 So really,

NOTE Confidence: 0.842007577419281

00:05:33.486 --> 00:05:35.550 we've seen a new era in lung cancer.

NOTE Confidence: 0.842007577419281

00:05:35.550 --> 00:05:36.840 We had some better chemotherapies.

NOTE Confidence: 0.842007577419281

00:05:36.840 --> 00:05:38.640 No doubt they were better.

NOTE Confidence: 0.842007577419281

00:05:38.640 --> 00:05:40.480 Then we had bevacizumab Avastin,

NOTE Confidence: 0.842007577419281

00:05:40.480 --> 00:05:41.216 Antiangiogenic therapy.

NOTE Confidence: 0.842007577419281

00:05:41.216 --> 00:05:42.320 That certainly helped,

NOTE Confidence: 0.842007577419281

00:05:42.320 --> 00:05:44.510 and then the Genomic Revolution and

NOTE Confidence: 0.842007577419281

00:05:44.510 --> 00:05:47.468 then hit lung cancer like no other disease,

NOTE Confidence: 0.842007577419281

00:05:47.470 --> 00:05:48.574 a common disease,

NOTE Confidence: 0.842007577419281

00:05:48.574 --> 00:05:51.150 and especially in the never relied smokers,

NOTE Confidence: 0.842007577419281

00:05:51.150 --> 00:05:52.454 actionable mutations were seen.

NOTE Confidence: 0.842007577419281

00:05:52.454 --> 00:05:54.861 And then you can see all these

NOTE Confidence: 0.842007577419281

00:05:54.861 --> 00:05:56.413 different mutations that could

NOTE Confidence: 0.842007577419281

00:05:56.413 --> 00:05:57.965 be targeted with drugs.

NOTE Confidence: 0.842007577419281

00:05:57.970 --> 00:05:59.550 The era of personalized therapy,

NOTE Confidence: 0.842007577419281

00:05:59.550 --> 00:06:01.134 though the work that had been

NOTE Confidence: 0.842007577419281

00:06:01.134 --> 00:06:02.190 done CL and breast

NOTE Confidence: 0.796012938022614

00:06:02.247 --> 00:06:04.007 cancer transferring very quickly to

NOTE Confidence: 0.796012938022614

00:06:04.007 --> 00:06:06.210 the large population of lung cancer.

NOTE Confidence: 0.796012938022614

00:06:06.210 --> 00:06:08.829 And then of course in the last decade alot

NOTE Confidence: 0.796012938022614

00:06:08.829 --> 00:06:11.910 of it LED from here at yell be immunotherapy.

NOTE Confidence: 0.796012938022614

00:06:11.910 --> 00:06:14.376 So I'm going to tell you a little bit

NOTE Confidence: 0.796012938022614

00:06:14.376 --> 00:06:17.175 about our young spore and the areas where

NOTE Confidence: 0.796012938022614

00:06:17.175 --> 00:06:19.541 we've made progress in lung cancer really

NOTE Confidence: 0.796012938022614

00:06:19.541 --> 00:06:22.054 mirror what we study in our long sport.

NOTE Confidence: 0.796012938022614

00:06:22.054 --> 00:06:23.639 Whether it be smoking cessation,

NOTE Confidence: 0.796012938022614

00:06:23.640 --> 00:06:25.056 targeted therapy. Immunotherapy and

NOTE Confidence: 0.796012938022614

00:06:25.056 --> 00:06:27.447 then I have some future thoughts that

NOTE Confidence: 0.796012938022614

00:06:27.447 --> 00:06:29.159 I want to share with all of you.

NOTE Confidence: 0.796012938022614

00:06:29.160 --> 00:06:30.670 But we're very fortunate to

NOTE Confidence: 0.796012938022614

00:06:30.670 --> 00:06:32.530 have such an amazing team here.

NOTE Confidence: 0.796012938022614

00:06:32.530 --> 00:06:34.778 And remember, it's all about the team and

NOTE Confidence: 0.796012938022614

00:06:34.778 --> 00:06:36.809 the people that are working together.

NOTE Confidence: 0.796012938022614

00:06:36.810 --> 00:06:38.034 Everyone from the doctors,

NOTE Confidence: 0.796012938022614

00:06:38.034 --> 00:06:39.870 the nurses to the research scientists,

NOTE Confidence: 0.796012938022614

00:06:39.870 --> 00:06:41.214 the whole Cancer Center.

NOTE Confidence: 0.796012938022614

00:06:41.214 --> 00:06:43.553 So we put Asporin started working on

NOTE Confidence: 0.796012938022614

00:06:43.553 --> 00:06:45.380 this when I arrived here in 2011.

NOTE Confidence: 0.796012938022614

00:06:45.380 --> 00:06:48.125 We were awarded a lung cancer spore in 2015.

NOTE Confidence: 0.796012938022614

00:06:48.130 --> 00:06:49.684 That's the New Haven Country Club

NOTE Confidence: 0.796012938022614

00:06:49.684 --> 00:06:51.799 where we had a little celebration.

NOTE Confidence: 0.796012938022614

00:06:51.800 --> 00:06:53.636 We renewed this more in 2020.

NOTE Confidence: 0.796012938022614

00:06:53.640 --> 00:06:54.250 We couldn't,

NOTE Confidence: 0.796012938022614

00:06:54.250 --> 00:06:56.385 of course go to the Country Club,

NOTE Confidence: 0.796012938022614

00:06:56.390 --> 00:06:59.162 but we had a very nice zoom cocktail party.

NOTE Confidence: 0.796012938022614

00:06:59.170 --> 00:07:01.126 C. Charlie Is there with us.

NOTE Confidence: 0.796012938022614

00:07:01.130 --> 00:07:03.080 It was really an amazing thing.

NOTE Confidence: 0.796012938022614

00:07:03.080 --> 00:07:04.880 We've now refunded the sport and

NOTE Confidence: 0.796012938022614

00:07:04.880 --> 00:07:07.190 you can see the four major areas

NOTE Confidence: 0.796012938022614

00:07:07.190 --> 00:07:09.272 we started with targeting PD one.

NOTE Confidence: 0.796012938022614

00:07:09.280 --> 00:07:10.255 Obviously with leaping,

NOTE Confidence: 0.796012938022614

00:07:10.255 --> 00:07:11.230 targeting, EGFR resistance,

NOTE Confidence: 0.796012938022614

00:07:11.230 --> 00:07:11.992 smoking cessation,

NOTE Confidence: 0.796012938022614

00:07:11.992 --> 00:07:15.480 and we had a project with micro RNA with

NOTE Confidence: 0.796012938022614

00:07:15.480 --> 00:07:18.424 Frank Slack who has since left for Boston.

NOTE Confidence: 0.796012938022614

00:07:18.430 --> 00:07:21.040 And we have a team and just an amazing team.

NOTE Confidence: 0.796012938022614

00:07:21.040 --> 00:07:23.389 And these are just the leaders of the team.

NOTE Confidence: 0.796012938022614

00:07:23.390 --> 00:07:24.734 There are so many others that

NOTE Confidence: 0.796012938022614

00:07:24.734 --> 00:07:25.630 have developmental projects and

NOTE Confidence: 0.796012938022614

00:07:25.675 --> 00:07:26.779 career developmental projects.

NOTE Confidence: 0.796012938022614

00:07:26.780 --> 00:07:28.085 But working together to combat

NOTE Confidence: 0.796012938022614

00:07:28.085 --> 00:07:28.868 this deadly disease,

NOTE Confidence: 0.796012938022614

00:07:28.870 --> 00:07:30.879 and I'm really fortunate to have been

NOTE Confidence: 0.796012938022614

00:07:30.879 --> 00:07:33.349 able to work with such an amazing group.

NOTE Confidence: 0.796012938022614

00:07:33.350 --> 00:07:35.500 So here is the spore,

NOTE Confidence: 0.796012938022614

00:07:35.500 --> 00:07:38.542 as it's a volved and I'm going to tell

NOTE Confidence: 0.796012938022614

00:07:38.542 --> 00:07:41.912 you about each of the projects in

NOTE Confidence: 0.796012938022614

00:07:41.912 --> 00:07:44.929 brief immunotherapy of advanced lung cancer.

NOTE Confidence: 0.796012938022614

00:07:44.930 --> 00:07:47.730 Leaping Scott myself and David Rim targeting

NOTE Confidence: 0.796012938022614

00:07:47.730 --> 00:07:50.509 the EGFR pathway in lung adenocarcinoma.

NOTE Confidence: 0.796012938022614

00:07:50.510 --> 00:07:51.546 Katie Poletti,

NOTE Confidence: 0.796012938022614

00:07:51.546 --> 00:07:53.618 Sarah Goldberg, Mark Lemon.

NOTE Confidence: 0.796012938022614

00:07:53.620 --> 00:07:54.896 Molecular determinants of lung

NOTE Confidence: 0.796012938022614

00:07:54.896 --> 00:07:56.491 cancer metastasis and drug regiments

NOTE Confidence: 0.796012938022614

00:07:56.491 --> 00:07:58.090 in the central nervous system.

NOTE Confidence: 0.796012938022614

00:07:58.090 --> 00:07:59.962 Don when Veronica Chang and Abby

NOTE Confidence: 0.796012938022614

00:07:59.962 --> 00:08:01.910 Patel and then we haven't carried

NOTE Confidence: 0.796012938022614

00:08:01.910 --> 00:08:03.824 this on to the new sport,

NOTE Confidence: 0.796012938022614

00:08:03.830 --> 00:08:05.666 but we're continuing the work personalized

NOTE Confidence: 0.796012938022614

00:08:05.666 --> 00:08:07.340 intervention project for tobacco treatment.

NOTE Confidence: 0.796012938022614

00:08:07.340 --> 00:08:09.005 Probably the most important thing

NOTE Confidence: 0.796012938022614

00:08:09.005 --> 00:08:11.286 I trained with Weinke Hung and if

NOTE Confidence: 0.796012938022614

00:08:11.286 --> 00:08:12.120 we prevent cancer,

NOTE Confidence: 0.796012938022614

00:08:12.120 --> 00:08:14.514 will actually save many more lives

NOTE Confidence: 0.796012938022614

00:08:14.514 --> 00:08:16.856 in any other therapies ever talk

NOTE Confidence: 0.796012938022614

00:08:16.856 --> 00:08:18.208 to you about today?

NOTE Confidence: 0.796012938022614

00:08:18.210 --> 00:08:20.214 And one important thing is we

NOTE Confidence: 0.796012938022614

00:08:20.214 --> 00:08:22.670 develop that new project on the left

NOTE Confidence: 0.796012938022614

00:08:22.670 --> 00:08:24.430 from 2 developments or research

NOTE Confidence: 0.796012938022614

00:08:24.430 --> 00:08:26.380 projects over the last six years.

NOTE Confidence: 0.796012938022614

00:08:26.380 --> 00:08:28.162 So here again are the projects

NOTE Confidence: 0.796012938022614

00:08:28.162 --> 00:08:29.053 in the leaders.

NOTE Confidence: 0.796012938022614

00:08:29.060 --> 00:08:31.444 I just want to point out the cores.

NOTE Confidence: 0.796012938022614

00:08:31.450 --> 00:08:33.529 The amazing thing about aspor other cores.

NOTE Confidence: 0.796012938022614

00:08:33.530 --> 00:08:35.616 I'm very fortunate to have a partner,

NOTE Confidence: 0.796012938022614

00:08:35.620 --> 00:08:37.601 an Ed captain who I've been working

NOTE Confidence: 0.796012938022614

00:08:37.601 --> 00:08:39.735 with now for six years and has

NOTE Confidence: 0.796012938022614

00:08:39.735 --> 00:08:41.571 helped to bring the team together,

NOTE Confidence: 0.796012938022614

00:08:41.580 --> 00:08:43.070 helps to manage your team.

NOTE Confidence: 0.796012938022614

00:08:43.070 --> 00:08:43.666 Very successful.

NOTE Confidence: 0.796012938022614

00:08:43.666 --> 00:08:44.858 They had an export,

NOTE Confidence: 0.793626368045807

00:08:44.860 --> 00:08:47.236 was just funded in large part to it.

NOTE Confidence: 0.793626368045807

00:08:47.240 --> 00:08:48.725 His efforts working with Barbara

NOTE Confidence: 0.793626368045807

00:08:48.725 --> 00:08:49.616 statistics and Bioinformatics.

NOTE Confidence: 0.793626368045807

00:08:49.620 --> 00:08:52.113 I won't say much about it because their work

NOTE Confidence: 0.793626368045807

00:08:52.113 --> 00:08:54.690 is in every project I talked about today.

NOTE Confidence: 0.793626368045807

00:08:54.690 --> 00:08:56.538 But Steve Mahan Usau he can't

NOTE Confidence: 0.793626368045807

00:08:56.538 --> 00:08:57.770 do anything without statistics.

NOTE Confidence: 0.793626368045807

00:08:57.770 --> 00:08:59.552 And I will highlight a little

NOTE Confidence: 0.793626368045807

00:08:59.552 --> 00:09:01.420 bit of by open specimen.

NOTE Confidence: 0.793626368045807

00:09:01.420 --> 00:09:03.406 Core pathology is key tissue banks,

NOTE Confidence: 0.793626368045807

00:09:03.410 --> 00:09:05.601 but found he studies and then the

NOTE Confidence: 0.793626368045807

00:09:05.601 --> 00:09:06.540 developmental research program

NOTE Confidence: 0.793626368045807

00:09:06.592 --> 00:09:08.060 in career enhancement program.

NOTE Confidence: 0.793626368045807

00:09:08.060 --> 00:09:09.380 I thank Karen Anderson,

NOTE Confidence: 0.793626368045807

00:09:09.380 --> 00:09:11.710 Pat Larusso and Harriet Kluger for this.

NOTE Confidence: 0.793626368045807

00:09:11.710 --> 00:09:12.366 50 projects.

NOTE Confidence: 0.793626368045807

00:09:12.366 --> 00:09:13.022 Young investigators.

NOTE Confidence: 0.793626368045807

00:09:13.022 --> 00:09:14.990 People who weren't working in lung

NOTE Confidence: 0.793626368045807

00:09:15.046 --> 00:09:16.686 cancer in the developmental field.

NOTE Confidence: 0.793626368045807

00:09:16.690 --> 00:09:18.958 Now we're working on lung cancer with

NOTE Confidence: 0.793626368045807

00:09:18.958 --> 00:09:21.338 many nuara ones and other team grants.

NOTE Confidence: 0.793626368045807

00:09:21.340 --> 00:09:24.268 So it really has created a whole culture

NOTE Confidence: 0.793626368045807

00:09:24.268 --> 00:09:26.907 of lung Cancer Research at Yale.

NOTE Confidence: 0.793626368045807

00:09:26.910 --> 00:09:28.878 I don't want to forget the clinic I'm

NOTE Confidence: 0.793626368045807

00:09:28.878 --> 00:09:31.229 in the clinic I'm in North Haven today.

NOTE Confidence: 0.793626368045807

00:09:31.230 --> 00:09:33.120 He can't do this without the clinic.

NOTE Confidence: 0.793626368045807

00:09:33.120 --> 00:09:34.752 It's gotta be a seamless transition

NOTE Confidence: 0.793626368045807

00:09:34.752 --> 00:09:36.947 and I won't have too much time to

NOTE Confidence: 0.793626368045807

00:09:36.947 --> 00:09:38.519 talk about the top program today.

NOTE Confidence: 0.793626368045807

00:09:38.520 --> 00:09:39.700 Maybe another grand rounds,

NOTE Confidence: 0.793626368045807

00:09:39.700 --> 00:09:41.751 but we had to retreat back in

NOTE Confidence: 0.793626368045807

00:09:41.751 --> 00:09:43.107 2012 and then you can see.

NOTE Confidence: 0.793626368045807

00:09:43.110 --> 00:09:45.270 And this is just as we both care centers

NOTE Confidence: 0.793626368045807

00:09:45.270 --> 00:09:47.694 in the care centers are critical to this.

NOTE Confidence: 0.793626368045807

00:09:47.700 --> 00:09:49.513 I'm out of care center patients are

NOTE Confidence: 0.793626368045807

00:09:49.513 --> 00:09:51.209 being seen here with lung cancer.

NOTE Confidence: 0.793626368045807

00:09:51.210 --> 00:09:53.370 Tissue specimens are going back to Cedar St.

NOTE Confidence: 0.793626368045807

00:09:53.370 --> 00:09:55.545 This is what we need. The top team?

NOTE Confidence: 0.793626368045807

00:09:55.545 --> 00:09:56.920 Linton Uian Frank form top.

NOTE Confidence: 0.793626368045807

00:09:56.920 --> 00:09:57.748 1520 years ago,

NOTE Confidence: 0.793626368045807

00:09:57.748 --> 00:09:58.852 it's tremendous user clinical

NOTE Confidence: 0.793626368045807

00:09:58.852 --> 00:10:00.020 trials director Roy Decker.

NOTE Confidence: 0.793626368045807

00:10:00.020 --> 00:10:01.712 This is our most recent retreat

NOTE Confidence: 0.793626368045807

00:10:01.712 --> 00:10:02.840 at the Business School,

NOTE Confidence: 0.793626368045807

00:10:02.840 --> 00:10:05.096 and here I am at the very first.

NOTE Confidence: 0.793626368045807

00:10:05.100 --> 00:10:06.750 We talking about a truckload battle

NOTE Confidence: 0.793626368045807

00:10:06.750 --> 00:10:08.760 that I brought over from MD Anderson.

NOTE Confidence: 0.793626368045807

00:10:08.760 --> 00:10:11.728 We put 40 patients on this drive with

NOTE Confidence: 0.793626368045807

00:10:11.728 --> 00:10:14.328 biopsies and help get this war going.

NOTE Confidence: 0.793626368045807

00:10:14.330 --> 00:10:16.000 So what about smoking cessation?

NOTE Confidence: 0.793626368045807

00:10:16.000 --> 00:10:16.334 Well,

NOTE Confidence: 0.793626368045807

00:10:16.334 --> 00:10:17.670 the health consequences of

NOTE Confidence: 0.793626368045807

00:10:17.670 --> 00:10:19.006 smoking are just enormous.

NOTE Confidence: 0.793626368045807

00:10:19.010 --> 00:10:21.320 80 to 90 different toxins in tobacco

NOTE Confidence: 0.793626368045807

00:10:21.320 --> 00:10:23.373 smoke and you know the decrease

NOTE Confidence: 0.793626368045807

00:10:23.373 --> 00:10:25.683 in risk and lung cancer is seen.

NOTE Confidence: 0.793626368045807

00:10:25.690 --> 00:10:27.360 Usually takes about five years,

NOTE Confidence: 0.793626368045807

00:10:27.360 --> 00:10:28.974 but you never reached the baseline

NOTE Confidence: 0.793626368045807

00:10:28.974 --> 00:10:30.558 and a sensation after diagnosis

NOTE Confidence: 0.793626368045807

00:10:30.558 --> 00:10:32.366 clearly improves treatment tolerance,

NOTE Confidence: 0.793626368045807

00:10:32.370 --> 00:10:32.952 an outcome.

NOTE Confidence: 0.793626368045807

00:10:32.952 --> 00:10:34.698 So we have a very concerted

NOTE Confidence: 0.793626368045807

00:10:34.698 --> 00:10:36.708 effort on smoking cessation here.

NOTE Confidence: 0.793626368045807

00:10:36.710 --> 00:10:40.940 And it was one of the projects of the score.

NOTE Confidence: 0.793626368045807

00:10:40.940 --> 00:10:42.998 Certainly we want to do a lot

NOTE Confidence: 0.793626368045807

00:10:42.998 --> 00:10:44.440 of work with policy.

NOTE Confidence: 0.793626368045807

00:10:44.440 --> 00:10:46.378 I've been involved with the ACR

NOTE Confidence: 0.793626368045807

00:10:46.378 --> 00:10:48.652 we've now gotten into work with the

NOTE Confidence: 0.793626368045807

00:10:48.652 --> 00:10:50.787 cigarettes you can see on the bottom

NOTE Confidence: 0.793626368045807

00:10:50.851 --> 00:10:53.035 right this to chytra with me at

NOTE Confidence: 0.793626368045807

00:10:53.035 --> 00:10:54.614 in Washington, along with Durbin,

NOTE Confidence: 0.793626368045807

00:10:54.614 --> 00:10:55.886 an E cigarette briefing.

NOTE Confidence: 0.793626368045807

00:10:55.890 --> 00:10:57.475 We've done one with Senator

NOTE Confidence: 0.793626368045807

00:10:57.475 --> 00:10:58.426 Blumenthal as well.

NOTE Confidence: 0.793626368045807

00:10:58.430 --> 00:11:00.332 We need to stop the initiation

NOTE Confidence: 0.793626368045807

00:11:00.332 --> 00:11:01.283 of tobacco use.

NOTE Confidence: 0.793626368045807

00:11:01.290 --> 00:11:03.348 We worry about the E cigarettes and

NOTE Confidence: 0.793626368045807

00:11:03.348 --> 00:11:04.974 whether patients and people will

NOTE Confidence: 0.793626368045807

00:11:04.974 --> 00:11:06.699 start to smoke tobacco cigarettes,

NOTE Confidence: 0.793626368045807

00:11:06.700 --> 00:11:08.608 smoking rates still remain about 18%,

NOTE Confidence: 0.793626368045807

00:11:08.610 --> 00:11:10.506 but why is it so important?

NOTE Confidence: 0.793626368045807

00:11:10.510 --> 00:11:12.430 Because it's higher in our community.

NOTE Confidence: 0.793626368045807

00:11:12.430 --> 00:11:13.718 Because we have community,

NOTE Confidence: 0.793626368045807

00:11:13.718 --> 00:11:15.328 that's that's a more diverse

NOTE Confidence: 0.793626368045807

00:11:15.328 --> 00:11:17.157 that has more long-term smokers.

NOTE Confidence: 0.793626368045807

00:11:17.160 --> 00:11:20.540 So look at the right for a section a second,

NOTE Confidence: 0.793626368045807

00:11:20.540 --> 00:11:23.108 you can see that we did a study

NOTE Confidence: 0.793626368045807

00:11:23.108 --> 00:11:23.750 personalized intervention

NOTE Confidence: 0.851306438446045

00:11:23.809 --> 00:11:25.655 project. I could see 42% of

NOTE Confidence: 0.851306438446045

00:11:25.655 --> 00:11:27.562 our people on that study where

NOTE Confidence: 0.851306438446045

00:11:27.562 --> 00:11:29.330 unemployed or on disability.

NOTE Confidence: 0.851306438446045

00:11:29.330 --> 00:11:32.090 You can see the large number of minority

NOTE Confidence: 0.851306438446045

00:11:32.090 --> 00:11:34.058 patients that were on this trial.

NOTE Confidence: 0.851306438446045

00:11:34.060 --> 00:11:36.764 So this is so vital for our community.

NOTE Confidence: 0.851306438446045

00:11:36.770 --> 00:11:38.926 So Ben told. Along with the team

NOTE Confidence: 0.851306438446045

00:11:38.926 --> 00:11:41.366 and Susan main work with us before

NOTE Confidence: 0.851306438446045

00:11:41.366 --> 00:11:43.532 she came and Brenda Cartmel created

NOTE Confidence: 0.851306438446045

00:11:43.600 --> 00:11:45.568 a trial where we had patients.

NOTE Confidence: 0.851306438446045

00:11:45.570 --> 00:11:46.570 Our target was 276.

NOTE Confidence: 0.851306438446045

00:11:46.570 --> 00:11:48.070 We enrolled about 200 and we're

NOTE Confidence: 0.851306438446045

00:11:48.119 --> 00:11:49.913 analyzing the data now and they

NOTE Confidence: 0.851306438446045

00:11:49.913 --> 00:11:51.109 either had standard cessation

NOTE Confidence: 0.851306438446045

00:11:51.158 --> 00:11:53.063 treatment or they had cessation

NOTE Confidence: 0.851306438446045

00:11:53.063 --> 00:11:54.587 treatment with personalized messaging.

NOTE Confidence: 0.851306438446045

00:11:54.590 --> 00:11:55.523 Gained frame messaging.

NOTE Confidence: 0.851306438446045

00:11:55.523 --> 00:11:56.767 What is that for?

NOTE Confidence: 0.851306438446045

00:11:56.770 --> 00:11:57.649 Anyone who's traveled?

NOTE Confidence: 0.851306438446045

00:11:57.649 --> 00:11:59.700 We haven't done that too much recently

NOTE Confidence: 0.851306438446045

00:11:59.756 --> 00:12:01.221 and you've seen those cigarette

NOTE Confidence: 0.851306438446045

00:12:01.221 --> 00:12:03.094 cartoons in the airports that have

NOTE Confidence: 0.851306438446045

00:12:03.094 --> 00:12:04.859 those really horrible looking pictures.

NOTE Confidence: 0.851306438446045

00:12:04.860 --> 00:12:06.720 That's negative non gained frame messaging,

NOTE Confidence: 0.851306438446045

00:12:06.720 --> 00:12:07.984 but more positive messages

NOTE Confidence: 0.851306438446045

00:12:07.984 --> 00:12:09.248 which we actually translated.

NOTE Confidence: 0.851306438446045

00:12:09.250 --> 00:12:11.119 Into several languages were used to see

NOTE Confidence: 0.851306438446045

00:12:11.119 --> 00:12:13.005 if that would help patients to stop

NOTE Confidence: 0.851306438446045

00:12:13.005 --> 00:12:15.259 smoking and then to keep them from smoking.

NOTE Confidence: 0.851306438446045

00:12:15.260 --> 00:12:16.898 We had a biomarker biofeedback method

NOTE Confidence: 0.851306438446045

00:12:16.898 --> 00:12:18.595 that Susan main developed looking at

NOTE Confidence: 0.851306438446045

00:12:18.595 --> 00:12:20.000 skin carotenoids which actually got

NOTE Confidence: 0.851306438446045

00:12:20.000 --> 00:12:21.913 higher in patients who stop smoking and

NOTE Confidence: 0.851306438446045

00:12:21.913 --> 00:12:23.443 patients could see their their number.

NOTE Confidence: 0.851306438446045

00:12:23.450 --> 00:12:25.354 So this trials under analysis right now.

NOTE Confidence: 0.851306438446045

00:12:25.360 --> 00:12:27.201 But you can see the team that

NOTE Confidence: 0.851306438446045

00:12:27.201 --> 00:12:29.079 came together to do this and now

NOTE Confidence: 0.851306438446045

00:12:29.079 --> 00:12:30.621 of course Lisa for Cheeto who

NOTE Confidence: 0.851306438446045

00:12:30.685 --> 00:12:32.455 leads that effort here at Yale.

NOTE Confidence: 0.851306438446045

00:12:32.460 --> 00:12:34.636 Now with the team doing a great job,

NOTE Confidence: 0.851306438446045

00:12:34.640 --> 00:12:36.278 we brought that group to Medical

NOTE Confidence: 0.851306438446045

00:12:36.278 --> 00:12:37.370 University of South Carolina.

NOTE Confidence: 0.851306438446045

00:12:37.370 --> 00:12:38.502 Here's the team there.

NOTE Confidence: 0.851306438446045

00:12:38.502 --> 00:12:40.200 We would go out to different.

NOTE Confidence: 0.851306438446045

00:12:40.200 --> 00:12:42.279 Forums and we talk about our work.

NOTE Confidence: 0.851306438446045

00:12:42.280 --> 00:12:44.704 You can see it was only possible because

NOTE Confidence: 0.851306438446045

00:12:44.704 --> 00:12:47.630 of the work of linen afoul rose at the VA,

NOTE Confidence: 0.851306438446045

00:12:47.630 --> 00:12:49.280 and Alyssa Roy Tobacco treatment groups

NOTE Confidence: 0.851306438446045

00:12:49.280 --> 00:12:51.490 at yeah and all the different groups.

NOTE Confidence: 0.851306438446045

00:12:51.490 --> 00:12:53.538 And there I am doing the Roman spectroscopy

NOTE Confidence: 0.851306438446045

00:12:53.538 --> 00:12:55.049 wasn't too difficult procedure,

NOTE Confidence: 0.851306438446045

00:12:55.050 --> 00:12:56.849 but you know the real thing is

NOTE Confidence: 0.851306438446045

00:12:56.849 --> 00:12:58.909 it got us into the community.

NOTE Confidence: 0.851306438446045

00:12:58.910 --> 00:13:00.050 We're continuing this work.

NOTE Confidence: 0.851306438446045

00:13:00.050 --> 00:13:02.180 We spoke with a caring ambassador program.

NOTE Confidence: 0.851306438446045

00:13:02.180 --> 00:13:03.820 There's teacher Johnson and that

NOTE Confidence: 0.851306438446045

00:13:03.820 --> 00:13:06.028 program and we were able to work

NOTE Confidence: 0.851306438446045

00:13:06.028 --> 00:13:07.813 with them to get this out there.

NOTE Confidence: 0.851306438446045

00:13:07.820 --> 00:13:10.204 We were able to get grand Beth Jones.

NOTE Confidence: 0.851306438446045

00:13:10.210 --> 00:13:11.062 Tina and myself,

NOTE Confidence: 0.851306438446045

00:13:11.062 --> 00:13:13.721 a grant from BMS to go out and do

NOTE Confidence: 0.851306438446045

00:13:13.721 --> 00:13:15.807 more of this work in the community

NOTE Confidence: 0.851306438446045

00:13:15.807 --> 00:13:17.960 and here we are just last week.

NOTE Confidence: 0.851306438446045

00:13:17.960 --> 00:13:19.736 Giving masks at Fair Haven clinic

NOTE Confidence: 0.851306438446045

00:13:19.736 --> 00:13:22.338 as an and the message of sensation

NOTE Confidence: 0.851306438446045

00:13:22.338 --> 00:13:24.583 so smoking cessation very important.

NOTE Confidence: 0.851306438446045

00:13:24.590 --> 00:13:27.510 What about targeted therapy?

NOTE Confidence: 0.851306438446045

00:13:27.510 --> 00:13:27.829 Well,

NOTE Confidence: 0.851306438446045

00:13:27.829 --> 00:13:30.062 I got into this about 1990 seven

NOTE Confidence: 0.851306438446045

00:13:30.062 --> 00:13:32.488 1998 when I was first at MD Anderson

NOTE Confidence: 0.851306438446045

00:13:32.488 --> 00:13:34.874 and I was called into the office

NOTE Confidence: 0.851306438446045

00:13:34.874 --> 00:13:36.829 with John Mendelsohn and kihon.

NOTE Confidence: 0.851306438446045

00:13:36.830 --> 00:13:39.168 I talked to them about you know,

NOTE Confidence: 0.851306438446045

00:13:39.170 --> 00:13:41.270 some targeted therapy and I've been

NOTE Confidence: 0.851306438446045

00:13:41.270 --> 00:13:43.159 reading about this and I said,

NOTE Confidence: 0.851306438446045

00:13:43.160 --> 00:13:45.608 how would you like to lead this effort

NOTE Confidence: 0.851306438446045

00:13:45.608 --> 00:13:48.152 and the address, and it says sure,

NOTE Confidence: 0.851306438446045

00:13:48.152 --> 00:13:49.817 and Fortunately there were trials,

NOTE Confidence: 0.851306438446045

00:13:49.820 --> 00:13:51.485 both in-house trials and industry

NOTE Confidence: 0.851306438446045

00:13:51.485 --> 00:13:52.817 trials at the time.

NOTE Confidence: 0.851306438446045

00:13:52.820 --> 00:13:55.655 And there's a drug called ZD 1839 and we

NOTE Confidence: 0.851306438446045

00:13:55.655 --> 00:13:58.486 did the first phase one trial of that.

NOTE Confidence: 0.851306438446045

00:13:58.490 --> 00:13:59.195 And it works.

NOTE Confidence: 0.851306438446045

00:13:59.195 --> 00:14:00.840 Now you can see I ended up

NOTE Confidence: 0.809033691883087

00:14:00.904 --> 00:14:02.420 working with my future

NOTE Confidence: 0.809033691883087

00:14:02.420 --> 00:14:04.315 collaborator and friend Pat Aruiso.

NOTE Confidence: 0.809033691883087

00:14:04.320 --> 00:14:06.957 We met in 1998 working on this trial and

NOTE Confidence: 0.809033691883087

00:14:06.957 --> 00:14:08.929 patients with lung cancer like this,

NOTE Confidence: 0.809033691883087

00:14:08.930 --> 00:14:11.034 he would have had less than six months

NOTE Confidence: 0.809033691883087

00:14:11.034 --> 00:14:13.229 to live had these wonderful results.

NOTE Confidence: 0.809033691883087

00:14:13.230 --> 00:14:14.940 So this was the dawn of

NOTE Confidence: 0.809033691883087

00:14:14.940 --> 00:14:16.600 EGFR therapy in lung cancer,

NOTE Confidence: 0.809033691883087

00:14:16.600 --> 00:14:19.435 and they have a friendship and partnership

NOTE Confidence: 0.809033691883087

00:14:19.435 --> 00:14:22.050 with Pat that's lasted to this day.

NOTE Confidence: 0.809033691883087

00:14:22.050 --> 00:14:24.802 So of course I'm not going to go

NOTE Confidence: 0.809033691883087

00:14:24.802 --> 00:14:26.838 through everything in this short talk,

NOTE Confidence: 0.809033691883087

00:14:26.840 --> 00:14:28.208 but through those works,

NOTE Confidence: 0.809033691883087

00:14:28.208 --> 00:14:30.260 the EGFR Mutation was was discovered.

NOTE Confidence: 0.809033691883087

00:14:30.260 --> 00:14:32.312 Of course, Tom are former director

NOTE Confidence: 0.809033691883087

00:14:32.312 --> 00:14:34.747 was very involved in that and Bruce

NOTE Confidence: 0.809033691883087

00:14:34.747 --> 00:14:37.092 Johnson and Pasion in the group Boston.

NOTE Confidence: 0.809033691883087

00:14:37.100 --> 00:14:39.452 We actually got to a point in the

NOTE Confidence: 0.809033691883087

00:14:39.452 --> 00:14:41.887 mid 2000s where patients could live.

NOTE Confidence: 0.809033691883087

00:14:41.890 --> 00:14:43.894 Here's a patient with metastatic lung

NOTE Confidence: 0.809033691883087

00:14:43.894 --> 00:14:45.989 cancer who is living with cancer,

NOTE Confidence: 0.809033691883087

00:14:45.990 --> 00:14:48.036 taking oral EGFR inhibitor each day,

NOTE Confidence: 0.809033691883087

00:14:48.040 --> 00:14:50.434 some some skin issues, some mild diarrhea.

NOTE Confidence: 0.809033691883087

00:14:50.440 --> 00:14:51.472 But Tara Parker,

NOTE Confidence: 0.809033691883087

00:14:51.472 --> 00:14:53.536 Pope wrote this article in 2003.

NOTE Confidence: 0.809033691883087

00:14:53.540 --> 00:14:55.442 Why curing your cancer may not

NOTE Confidence: 0.809033691883087

00:14:55.442 --> 00:14:56.710 be the best idea.

NOTE Confidence: 0.809033691883087

00:14:56.710 --> 00:14:58.894 The idea was lung cancers become a

NOTE Confidence: 0.809033691883087

00:14:58.894 --> 00:15:00.509 disease like hypertension or diabetes.

NOTE Confidence: 0.809033691883087

00:15:00.510 --> 00:15:02.328 The problem with the targeted therapy

NOTE Confidence: 0.809033691883087

00:15:02.328 --> 00:15:04.950 for EGFR is no ones really ever cured.

NOTE Confidence: 0.809033691883087

00:15:04.950 --> 00:15:06.846 Resistance will ultimately develop well here.

NOTE Confidence: 0.809033691883087

00:15:06.850 --> 00:15:08.758 It's a little bit about that.

NOTE Confidence: 0.809033691883087

00:15:08.760 --> 00:15:10.340 So we started in 1997.

NOTE Confidence: 0.809033691883087

00:15:10.340 --> 00:15:11.980 The second line therapies with

NOTE Confidence: 0.809033691883087

00:15:11.980 --> 00:15:13.970 the different nib or laugh and

NOTE Confidence: 0.809033691883087

00:15:13.970 --> 00:15:15.410 have some of those agents.

NOTE Confidence: 0.809033691883087

00:15:15.410 --> 00:15:16.678 The mutations were discovered

NOTE Confidence: 0.809033691883087

00:15:16.678 --> 00:15:17.946 right around in here.

NOTE Confidence: 0.809033691883087

00:15:17.950 --> 00:15:19.854 The decision was made to give these

NOTE Confidence: 0.809033691883087

00:15:19.854 --> 00:15:22.069 drugs only to patients with mutations.

NOTE Confidence: 0.809033691883087

00:15:22.070 --> 00:15:23.946 So then we started to use these

NOTE Confidence: 0.809033691883087

00:15:23.946 --> 00:15:25.909 drugs in the frontline setting.

NOTE Confidence: 0.809033691883087

00:15:25.910 --> 00:15:27.926 And then we had new generation drugs and

NOTE Confidence: 0.809033691883087

00:15:27.926 --> 00:15:30.346 a new generation drive was Aston Martin.

NOTE Confidence: 0.809033691883087

00:15:30.350 --> 00:15:32.614 If this drug being less toxic because it

NOTE Confidence: 0.809033691883087

00:15:32.614 --> 00:15:34.789 was targeted just to EGFR Mutant Receptor,

NOTE Confidence: 0.809033691883087

00:15:34.790 --> 00:15:36.855 the other drugs targeted all EGFR receptor,

NOTE Confidence: 0.809033691883087

00:15:36.860 --> 00:15:38.636 so it had fewer side effects.

NOTE Confidence: 0.809033691883087

00:15:38.640 --> 00:15:40.452 And it also was developed to

NOTE Confidence: 0.809033691883087

00:15:40.452 --> 00:15:42.490 go to the brain to the CNS.

NOTE Confidence: 0.809033691883087

00:15:42.490 --> 00:15:44.219 So with this drug we had better

NOTE Confidence: 0.809033691883087

00:15:44.219 --> 00:15:46.040 therapy in the metastatic setting.

NOTE Confidence: 0.809033691883087

00:15:46.040 --> 00:15:48.360 When I'm going to tell you about now

NOTE Confidence: 0.809033691883087

00:15:48.360 --> 00:15:50.535 is something that I got involved with

NOTE Confidence: 0.809033691883087

00:15:50.535 --> 00:15:52.694 right around this time with the team

NOTE Confidence: 0.809033691883087

00:15:52.694 --> 00:15:54.918 to take the drug to Azure and therapy,

NOTE Confidence: 0.809033691883087

00:15:54.920 --> 00:15:56.480 take it to earlier disease.

NOTE Confidence: 0.809033691883087

00:15:56.480 --> 00:15:58.520 And I mentioned Tom Fry and the one

NOTE Confidence: 0.809033691883087

00:15:58.520 --> 00:16:00.449 thing he always would tell me is

NOTE Confidence: 0.809033691883087

00:16:00.449 --> 00:16:02.739 bring your drugs to the earliest most

NOTE Confidence: 0.809033691883087

00:16:02.739 --> 00:16:04.794 curable setting. Well, we did that.

NOTE Confidence: 0.809033691883087

00:16:04.794 --> 00:16:06.274 So in early lung cancer.

NOTE Confidence: 0.809033691883087

00:16:06.280 --> 00:16:08.074 Let's say someone where to find

NOTE Confidence: 0.809033691883087

00:16:08.074 --> 00:16:09.893 themselves to have an early lesion

NOTE Confidence: 0.809033691883087

00:16:09.893 --> 00:16:10.739 in the lung,

NOTE Confidence: 0.809033691883087

00:16:10.740 --> 00:16:12.756 perhaps a few local lymph nodes or

NOTE Confidence: 0.809033691883087

00:16:12.756 --> 00:16:14.299 even some mediastinal lymph nodes.

NOTE Confidence: 0.809033691883087

00:16:14.300 --> 00:16:16.379 The chance of them being cured with

NOTE Confidence: 0.809033691883087

00:16:16.379 --> 00:16:18.161 surgery is reasonable, but it's not.

NOTE Confidence: 0.809033691883087

00:16:18.161 --> 00:16:20.223 It's not good enough, so we would.

NOTE Confidence: 0.809033691883087

00:16:20.223 --> 00:16:22.260 We would cut these damn boffa Frank

NOTE Confidence: 0.809033691883087

00:16:22.322 --> 00:16:24.986 better back in the team would cut these out.

NOTE Confidence: 0.809033691883087

00:16:24.990 --> 00:16:26.796 But then we might even give

NOTE Confidence: 0.809033691883087

00:16:26.796 --> 00:16:27.398 acumen chemotherapy.

NOTE Confidence: 0.809033691883087

00:16:27.400 --> 00:16:30.084 Which maybe has a 5% or so improvement in

NOTE Confidence: 0.809033691883087

00:16:30.084 --> 00:16:32.310 outcome but still in stage one disease.

NOTE Confidence: 0.809033691883087

00:16:32.310 --> 00:16:34.152 The earliest disease you know only

NOTE Confidence: 0.809033691883087

00:16:34.152 --> 00:16:36.328 60 to 70% of patients are cured.

NOTE Confidence: 0.809033691883087

00:16:36.328 --> 00:16:38.450 Stage two patients only 47 to 55%

NOTE Confidence: 0.856064856052399

00:16:38.450 --> 00:16:40.286 and it stage three only 38%.

NOTE Confidence: 0.856064856052399

00:16:40.290 --> 00:16:42.754 So if you have these patients and they

NOTE Confidence: 0.856064856052399

00:16:42.754 --> 00:16:44.930 have each year for mutations and it's

NOTE Confidence: 0.856064856052399

00:16:44.930 --> 00:16:47.660 only 10 to 15% of patients in the US,

NOTE Confidence: 0.856064856052399

00:16:47.660 --> 00:16:49.700 about 20 to 30 in Asia but still

NOTE Confidence: 0.856064856052399

00:16:49.700 --> 00:16:51.261 enough lung cancer patients that

NOTE Confidence: 0.856064856052399

00:16:51.261 --> 00:16:53.241 if you could find these patients

NOTE Confidence: 0.856064856052399

00:16:53.241 --> 00:16:55.029 and give him something else,

NOTE Confidence: 0.856064856052399

00:16:55.030 --> 00:16:57.646 it could make a big difference.

NOTE Confidence: 0.856064856052399

00:16:57.650 --> 00:16:59.666 Well here comes the Adora trial.

NOTE Confidence: 0.856064856052399

00:16:59.670 --> 00:17:01.700 I was very fortunate to be one

NOTE Confidence: 0.856064856052399

00:17:01.700 --> 00:17:03.792 of the people who designed this

NOTE Confidence: 0.856064856052399

00:17:03.792 --> 00:17:05.707 along with Masahiro Suboi from

NOTE Confidence: 0.856064856052399

00:17:05.707 --> 00:17:07.729 Japan and Ylang Wu in China.

NOTE Confidence: 0.856064856052399

00:17:07.730 --> 00:17:09.405 Of course, EGFR mutations being

NOTE Confidence: 0.856064856052399

00:17:09.405 --> 00:17:10.745 much more prevalent there.

NOTE Confidence: 0.856064856052399

00:17:10.750 --> 00:17:12.094 We've been working on

NOTE Confidence: 0.856064856052399

00:17:12.094 --> 00:17:13.774 this for almost a decade,

NOTE Confidence: 0.856064856052399

00:17:13.780 --> 00:17:16.195 so here we took patients who quit

NOTE Confidence: 0.856064856052399

00:17:16.195 --> 00:17:17.470 completely respected stage 1B,

NOTE Confidence: 0.856064856052399

00:17:17.470 --> 00:17:18.478 two or three.

NOTE Confidence: 0.856064856052399

00:17:18.478 --> 00:17:20.158 A disease with or without

NOTE Confidence: 0.856064856052399

00:17:20.158 --> 00:17:20.830 active chemotherapy.

NOTE Confidence: 0.856064856052399

00:17:20.830 --> 00:17:22.762 So patients could receive their standard

NOTE Confidence: 0.856064856052399

00:17:22.762 --> 00:17:25.836 of care and you can see they all had

NOTE Confidence: 0.856064856052399

00:17:25.836 --> 00:17:27.216 recently good performance status.

NOTE Confidence: 0.856064856052399

00:17:27.220 --> 00:17:28.412 They all had rain.

NOTE Confidence: 0.856064856052399

00:17:28.412 --> 00:17:30.200 Imaging they had the two most

NOTE Confidence: 0.856064856052399

00:17:30.262 --> 00:17:32.122 common types of each year for

NOTE Confidence: 0.856064856052399

00:17:32.122 --> 00:17:33.800 mutations in Exon 19 or 21,

NOTE Confidence: 0.856064856052399

00:17:33.800 --> 00:17:35.830 and they could have actually been therapy.

NOTE Confidence: 0.856064856052399

00:17:35.830 --> 00:17:37.726 They started within 10 weeks if

NOTE Confidence: 0.856064856052399

00:17:37.726 --> 00:17:39.981 they did not have action in chemo

NOTE Confidence: 0.856064856052399

00:17:39.981 --> 00:17:42.144 and within 26 weeks if they did.

NOTE Confidence: 0.856064856052399

00:17:42.150 --> 00:17:44.148 There were stratified by their stage.

NOTE Confidence: 0.856064856052399

00:17:44.150 --> 00:17:45.944 The trial is about an equal

NOTE Confidence: 0.856064856052399

00:17:45.944 --> 00:17:48.215 number of stage one B2 and three

NOTE Confidence: 0.856064856052399

00:17:48.215 --> 00:17:50.237 a weather each year from mutation

NOTE Confidence: 0.856064856052399

00:17:50.237 --> 00:17:52.390 status 19 or L858R21 or their

NOTE Confidence: 0.856064856052399

00:17:52.390 --> 00:17:54.140 race Asian versus non radiation.

NOTE Confidence: 0.856064856052399

00:17:54.140 --> 00:17:55.805 About 1/3 of the patients

NOTE Confidence: 0.856064856052399

00:17:55.805 --> 00:17:57.137 came were non Asian,

NOTE Confidence: 0.856064856052399

00:17:57.140 --> 00:17:59.212 2/3 Asian and a very simple trial

NOTE Confidence: 0.856064856052399

00:17:59.212 --> 00:18:01.129 and you know simple trouser.

NOTE Confidence: 0.856064856052399

00:18:01.130 --> 00:18:03.092 Sometimes the best answer merchant 80

NOTE Confidence: 0.856064856052399

00:18:03.092 --> 00:18:05.459 milligrams orally once a day versus placebo.

NOTE Confidence: 0.856064856052399

00:18:05.460 --> 00:18:07.428 I'm often asked how could you

NOTE Confidence: 0.856064856052399

00:18:07.428 --> 00:18:09.135 do a pussybow because there

NOTE Confidence: 0.856064856052399

00:18:09.135 --> 00:18:11.115 was no other standard of care.

NOTE Confidence: 0.856064856052399

00:18:11.120 --> 00:18:14.135 We just waited for these tumors to come back.

NOTE Confidence: 0.856064856052399

00:18:14.140 --> 00:18:16.162 Coding insights like the brain delivering

NOTE Confidence: 0.856064856052399

00:18:16.162 --> 00:18:18.050 the bone 682 patients on trial.

NOTE Confidence: 0.856064856052399

00:18:18.050 --> 00:18:20.658 The planned duration of treatment is 3 years,

NOTE Confidence: 0.856064856052399

00:18:20.660 --> 00:18:22.616 so they got three years of

NOTE Confidence: 0.856064856052399

00:18:22.616 --> 00:18:23.920 treatment and they stopped.

NOTE Confidence: 0.856064856052399

00:18:23.920 --> 00:18:26.360 If they record and the follow up you

NOTE Confidence: 0.856064856052399

00:18:26.360 --> 00:18:29.001 can see every 12 weeks for the first

NOTE Confidence: 0.856064856052399

00:18:29.001 --> 00:18:31.419 few years and then every 24 weeks.

NOTE Confidence: 0.856064856052399

00:18:31.420 --> 00:18:33.050 The primary endpoint of this

NOTE Confidence: 0.856064856052399

00:18:33.050 --> 00:18:34.680 trial was disease free survival,

NOTE Confidence: 0.856064856052399

00:18:34.680 --> 00:18:36.160 so surviving without recurrence

NOTE Confidence: 0.856064856052399

00:18:36.160 --> 00:18:38.380 in the patients with stage two

NOTE Confidence: 0.856064856052399

00:18:38.444 --> 00:18:40.196 and three disease it was power

NOTE Confidence: 0.856064856052399

00:18:40.196 --> 00:18:41.850 for a hazard ratio of 0.7.

NOTE Confidence: 0.856064856052399

00:18:41.850 --> 00:18:43.654 So for 30% improvement.

NOTE Confidence: 0.856064856052399

00:18:43.654 --> 00:18:46.360 The secondary endpoint was disease free.

NOTE Confidence: 0.856064856052399

00:18:46.360 --> 00:18:48.610 Survival in the overall population

NOTE Confidence: 0.856064856052399

00:18:48.610 --> 00:18:50.860 with source continuing and then

NOTE Confidence: 0.856064856052399

00:18:50.930 --> 00:18:52.840 234 and five year landmarks.

NOTE Confidence: 0.856064856052399

00:18:52.840 --> 00:18:56.487 Overall survival, safety and quality of life.

NOTE Confidence: 0.856064856052399

00:18:56.490 --> 00:18:58.296 I was not expecting to be

NOTE Confidence: 0.856064856052399

00:18:58.296 --> 00:18:59.850 presenting these data this year.

NOTE Confidence: 0.856064856052399

00:18:59.850 --> 00:19:01.978 It was a plenary talk at Asco.

NOTE Confidence: 0.856064856052399

00:19:01.980 --> 00:19:03.510 I gotta call during Passover.

NOTE Confidence: 0.856064856052399

00:19:03.510 --> 00:19:05.638 I guess it was on Good Friday.

NOTE Confidence: 0.856064856052399

00:19:05.640 --> 00:19:07.495 So around April 10th or so the

NOTE Confidence: 0.856064856052399

00:19:07.495 --> 00:19:09.000 trial had been underlined.

NOTE Confidence: 0.856064856052399

00:19:09.000 --> 00:19:09.610 It why?

NOTE Confidence: 0.856064856052399

00:19:09.610 --> 00:19:11.135 Because the independent data monitoring

NOTE Confidence: 0.856064856052399

00:19:11.135 --> 00:19:12.350 committee unblinded study early.

NOTE Confidence: 0.856064856052399

00:19:12.350 --> 00:19:13.875 Do the Efficacy they were

NOTE Confidence: 0.856064856052399

00:19:13.875 --> 00:19:15.095 doing a safety review,

NOTE Confidence: 0.856064856052399

00:19:15.100 --> 00:19:17.836 but they saw that the Efficacy was so good,

NOTE Confidence: 0.856064856052399

00:19:17.840 --> 00:19:19.667 which is almost unheard of and they

NOTE Confidence: 0.856064856052399

00:19:19.667 --> 00:19:21.565 did an unplanned interim analysis and

NOTE Confidence: 0.856064856052399

00:19:21.565 --> 00:19:23.325 the study had completed enrollment.

NOTE Confidence: 0.856064856052399

00:19:23.330 --> 00:19:25.770 All patients ran for at least one year,

NOTE Confidence: 0.810961365699768

00:19:25.770 --> 00:19:27.989 so they decided to unblind the trial.

NOTE Confidence: 0.810961365699768

00:19:27.990 --> 00:19:30.843 So I got that call and by the next week we

NOTE Confidence: 0.810961365699768

00:19:30.843 --> 00:19:33.345 were already preparing an Astro presentation.

NOTE Confidence: 0.810961365699768

00:19:33.350 --> 00:19:35.240 Why? Because these were the data.

NOTE Confidence: 0.810961365699768

00:19:35.240 --> 00:19:37.130 Remember, I told you that was

NOTE Confidence: 0.810961365699768

00:19:37.130 --> 00:19:38.704 powered for a 30% improvement,

NOTE Confidence: 0.810961365699768

00:19:38.704 --> 00:19:40.588 but look here on the left.

NOTE Confidence: 0.810961365699768

00:19:40.590 --> 00:19:42.165 These are patients with stage

NOTE Confidence: 0.810961365699768

00:19:42.165 --> 00:19:43.740 two and three a disease.

NOTE Confidence: 0.810961365699768

00:19:43.740 --> 00:19:44.712 The primary population.

NOTE Confidence: 0.810961365699768

00:19:44.712 --> 00:19:46.980 This is a disease free survival for

NOTE Confidence: 0.810961365699768

00:19:47.035 --> 00:19:48.877 patients on the astroneer can have

NOTE Confidence: 0.810961365699768

00:19:48.877 --> 00:19:50.988 the pill versus those on the placebo.

NOTE Confidence: 0.810961365699768

00:19:50.990 --> 00:19:53.188 The hazard ratio here is 0.1 seven.

NOTE Confidence: 0.810961365699768

00:19:53.190 --> 00:19:55.084 That means there's an 83% improvement.

NOTE Confidence: 0.810961365699768

00:19:55.084 --> 00:19:57.596 Again, we expected that this drug would work,

NOTE Confidence: 0.810961365699768

00:19:57.600 --> 00:19:59.190 but with this much magnitude.

NOTE Confidence: 0.810961365699768

00:19:59.190 --> 00:20:00.330 It was just incredible.

NOTE Confidence: 0.810961365699768

00:20:00.330 --> 00:20:03.048 And then when you add in the 1B patients,

NOTE Confidence: 0.810961365699768

00:20:03.050 --> 00:20:04.535 patients who would have a

NOTE Confidence: 0.810961365699768

00:20:04.535 --> 00:20:06.020 good prognosis to begin with,

NOTE Confidence: 0.810961365699768

00:20:06.020 --> 00:20:08.396 I told you half of those were cured.

NOTE Confidence: 0.810961365699768

00:20:08.400 --> 00:20:09.885 The hazard ratio still 0.2

NOTE Confidence: 0.810961365699768

00:20:09.885 --> 00:20:10.854 zero 80% improvement.

NOTE Confidence: 0.810961365699768

00:20:10.854 --> 00:20:13.098 So these these data were quite

NOTE Confidence: 0.810961365699768

00:20:13.098 --> 00:20:15.484 impressive to all of us and that's

NOTE Confidence: 0.810961365699768

00:20:15.484 --> 00:20:17.284 why it was presented so quickly.

NOTE Confidence: 0.810961365699768

00:20:17.290 --> 00:20:18.850 This is a forest part,

NOTE Confidence: 0.810961365699768

00:20:18.850 --> 00:20:21.640 which is often done in these types of trials.

NOTE Confidence: 0.810961365699768

00:20:21.640 --> 00:20:23.817 Here you can see the unity line,

NOTE Confidence: 0.810961365699768

00:20:23.820 --> 00:20:26.316 anything to the left favors the App Store

NOTE Confidence: 0.810961365699768

00:20:26.316 --> 00:20:28.799 merchant and they think of the right favors.

NOTE Confidence: 0.810961365699768

00:20:28.800 --> 00:20:29.422 The placebo.

NOTE Confidence: 0.810961365699768

00:20:29.422 --> 00:20:31.910 You can see everything is to the left,

NOTE Confidence: 0.810961365699768

00:20:31.910 --> 00:20:33.460 whether it be sex, age,

NOTE Confidence: 0.810961365699768

00:20:33.460 --> 00:20:35.015 former smokers still did well

NOTE Confidence: 0.810961365699768

00:20:35.015 --> 00:20:37.189 whether they were Asian or non Asian.

NOTE Confidence: 0.810961365699768

00:20:37.190 --> 00:20:37.812 The race,

NOTE Confidence: 0.810961365699768

00:20:37.812 --> 00:20:39.367 the stage I told you,

NOTE Confidence: 0.810961365699768

00:20:39.370 --> 00:20:40.930 equal numbers and all three.

NOTE Confidence: 0.810961365699768

00:20:40.930 --> 00:20:42.827 Even the early stage ones still make

NOTE Confidence: 0.810961365699768

00:20:42.827 --> 00:20:45.106 it across the line and then each

NOTE Confidence: 0.810961365699768

00:20:45.106 --> 00:20:46.514 information status didn't matter.

NOTE Confidence: 0.810961365699768

00:20:46.520 --> 00:20:47.507 And of course.

NOTE Confidence: 0.810961365699768

00:20:47.507 --> 00:20:49.152 Whether they got acumen chemotherapy

NOTE Confidence: 0.810961365699768

00:20:49.152 --> 00:20:50.949 enough or not didn't seem to

NOTE Confidence: 0.810961365699768

00:20:50.949 --> 00:20:52.299 make a difference as well,

NOTE Confidence: 0.810961365699768

00:20:52.300 --> 00:20:54.102 so all this was positive, really,

NOTE Confidence: 0.810961365699768

00:20:54.102 --> 00:20:55.310 really very positive trial.

NOTE Confidence: 0.810961365699768

00:20:55.310 --> 00:20:57.410 So where are we at with this?

NOTE Confidence: 0.810961365699768

00:20:57.410 --> 00:20:59.216 Just to give it in perspective,

NOTE Confidence: 0.810961365699768

00:20:59.220 --> 00:21:01.268 I'm sure many of you want to know

NOTE Confidence: 0.810961365699768

00:21:01.268 --> 00:21:02.830 what about overall survival.

NOTE Confidence: 0.810961365699768

00:21:02.830 --> 00:21:05.539 We won't have that for a couple of years.

NOTE Confidence: 0.810961365699768

00:21:05.540 --> 00:21:06.744 The trials continuing on,

NOTE Confidence: 0.810961365699768

00:21:06.744 --> 00:21:08.249 and that will be filed.

NOTE Confidence: 0.810961365699768

00:21:08.250 --> 00:21:10.258 But right now we want to know the

NOTE Confidence: 0.810961365699768

00:21:10.258 --> 00:21:11.859 local versus disease recurrence,

NOTE Confidence: 0.810961365699768

00:21:11.860 --> 00:21:13.365 including the sites of recurrence

NOTE Confidence: 0.810961365699768

00:21:13.365 --> 00:21:14.569 I mentioned the brain,

NOTE Confidence: 0.810961365699768

00:21:14.570 --> 00:21:16.080 the liver and the bone.

NOTE Confidence: 0.810961365699768

00:21:16.080 --> 00:21:18.229 And actually I this is a nice.

NOTE Confidence: 0.810961365699768

00:21:18.230 --> 00:21:20.662 Picture from an Chang and an article she

NOTE Confidence: 0.810961365699768

00:21:20.662 --> 00:21:23.176 wrote with Johann Mascia number years ago,

NOTE Confidence: 0.810961365699768

00:21:23.180 --> 00:21:24.500 but that's the thing.

NOTE Confidence: 0.810961365699768

00:21:24.500 --> 00:21:26.150 Even without the survival result,

NOTE Confidence: 0.810961365699768

00:21:26.150 --> 00:21:27.800 our patients are occurring in

NOTE Confidence: 0.810961365699768

00:21:27.800 --> 00:21:29.120 these very sensitive sites.

NOTE Confidence: 0.810961365699768

00:21:29.120 --> 00:21:30.825 What were the subsequent therapies

NOTE Confidence: 0.810961365699768

00:21:30.825 --> 00:21:33.079 in one of the quality of life?

NOTE Confidence: 0.810961365699768

00:21:33.080 --> 00:21:34.730 All this is still percolating

NOTE Confidence: 0.810961365699768

00:21:34.730 --> 00:21:36.380 and will present it shortly.

NOTE Confidence: 0.810961365699768

00:21:36.380 --> 00:21:37.014 In fact,

NOTE Confidence: 0.810961365699768

00:21:37.014 --> 00:21:40.010 I'd like to just say a word about this.

NOTE Confidence: 0.810961365699768

00:21:40.010 --> 00:21:42.320 The idea that we've taken targeted therapy,

NOTE Confidence: 0.810961365699768

00:21:42.320 --> 00:21:44.960 and we've added it to our best surgery,

NOTE Confidence: 0.810961365699768

00:21:44.960 --> 00:21:46.244 an Azure in therapy.

NOTE Confidence: 0.810961365699768

00:21:46.244 --> 00:21:47.849 And now we're seeing better

NOTE Confidence: 0.810961365699768

00:21:47.849 --> 00:21:48.960 outcomes for patients.

NOTE Confidence: 0.810961365699768

00:21:48.960 --> 00:21:50.990 And I can't help but think about

NOTE Confidence: 0.810961365699768

00:21:50.990 --> 00:21:52.440 my late mentor, Isaiah Fiddler,

NOTE Confidence: 0.810961365699768

00:21:52.440 --> 00:21:53.020 Josh Fiddler.

NOTE Confidence: 0.810961365699768

00:21:53.020 --> 00:21:54.470 He digester earlier this year.

NOTE Confidence: 0.810961365699768

00:21:54.470 --> 00:21:56.528 He would always talk about that that

NOTE Confidence: 0.810961365699768

00:21:56.528 --> 00:21:58.814 biology is the foundation of therapy and

NOTE Confidence: 0.810961365699768

00:21:58.814 --> 00:22:01.230 that's what we've done with your trial.

NOTE Confidence: 0.810961365699768

00:22:01.230 --> 00:22:03.398 Now I wish I could tell you more,

NOTE Confidence: 0.829668581485748

00:22:03.400 --> 00:22:05.839 so I hinted to you about the brain Mets.

NOTE Confidence: 0.829668581485748

00:22:05.840 --> 00:22:07.526 I'll tell you that it's good

NOTE Confidence: 0.829668581485748

00:22:07.526 --> 00:22:09.579 enough that there's going to be an

NOTE Confidence: 0.829668581485748

00:22:09.579 --> 00:22:11.034 embargoed presentation at Esmo this

NOTE Confidence: 0.829668581485748

00:22:11.034 --> 00:22:12.822 Saturday at 12:30 our time and a

NOTE Confidence: 0.829668581485748

00:22:12.822 --> 00:22:14.241 paper coming out in the Journal.

NOTE Confidence: 0.829668581485748

00:22:14.241 --> 00:22:16.138 I'm not supposed to talk about it,

NOTE Confidence: 0.829668581485748

00:22:16.140 --> 00:22:18.037 but in a Journal that the Mass

NOTE Confidence: 0.829668581485748

00:22:18.037 --> 00:22:18.850 Medical Society publishes.

NOTE Confidence: 0.829668581485748

00:22:18.850 --> 00:22:20.740 So this. So this will be out.

NOTE Confidence: 0.829668581485748

00:22:20.740 --> 00:22:24.004 You'll be able to see it by Saturday.

NOTE Confidence: 0.829668581485748

00:22:24.010 --> 00:22:26.466 So where are we at with this now?

NOTE Confidence: 0.829668581485748

00:22:26.470 --> 00:22:29.224 Now we have to even add in more science.

NOTE Confidence: 0.829668581485748

00:22:29.230 --> 00:22:31.337 So now we have an alliance with

NOTE Confidence: 0.829668581485748

00:22:31.337 --> 00:22:32.916 Astra Zeneca that Patton Russo

NOTE Confidence: 0.829668581485748

00:22:32.916 --> 00:22:34.758 and I were able to develop.

NOTE Confidence: 0.829668581485748

00:22:34.760 --> 00:22:36.783 And you can see we're working with

NOTE Confidence: 0.829668581485748

00:22:36.783 --> 00:22:38.562 their tool compounds with them on

NOTE Confidence: 0.829668581485748

00:22:38.562 --> 00:22:40.266 all the different questions I just

NOTE Confidence: 0.829668581485748

00:22:40.266 --> 00:22:41.820 talked about brain metastases,

NOTE Confidence: 0.829668581485748

00:22:41.820 --> 00:22:43.008 resistance mechanisms and you

NOTE Confidence: 0.829668581485748

00:22:43.008 --> 00:22:45.166 can see that here is our summit

NOTE Confidence: 0.829668581485748

00:22:45.166 --> 00:22:46.726 meeting exactly a year ago,

NOTE Confidence: 0.829668581485748

00:22:46.730 --> 00:22:48.704 but now we just had a call

NOTE Confidence: 0.829668581485748

00:22:48.704 --> 00:22:50.110 with them yesterday morning.

NOTE Confidence: 0.829668581485748

00:22:50.110 --> 00:22:52.374 And now with Katie plenty and on when

NOTE Confidence: 0.829668581485748

00:22:52.374 --> 00:22:54.800 an hobby re biopsy study and analysis.

NOTE Confidence: 0.829668581485748

00:22:54.800 --> 00:22:57.341 Cell free DNA from Adora to understand

NOTE Confidence: 0.829668581485748

00:22:57.341 --> 00:22:59.015 mechanisms of resistance we need

NOTE Confidence: 0.829668581485748

00:22:59.015 --> 00:23:00.828 to use this trial and the samples

NOTE Confidence: 0.829668581485748

00:23:00.828 --> 00:23:02.918 for the patients who are still on

NOTE Confidence: 0.829668581485748

00:23:02.918 --> 00:23:05.030 a trial to understand when do they

NOTE Confidence: 0.829668581485748

00:23:05.030 --> 00:23:06.580 develop resistance in their blood.

NOTE Confidence: 0.829668581485748

00:23:06.580 --> 00:23:08.750 When can we measure the resistant clones?

NOTE Confidence: 0.829668581485748

00:23:08.750 --> 00:23:10.682 How can we determine how long to

NOTE Confidence: 0.829668581485748

00:23:10.682 --> 00:23:12.780 treat when to start new therapies?

NOTE Confidence: 0.829668581485748

00:23:12.780 --> 00:23:14.880 So all of this is very very

NOTE Confidence: 0.829668581485748

00:23:14.880 --> 00:23:16.810 exciting and really speaks to have.

NOTE Confidence: 0.829668581485748

00:23:16.810 --> 00:23:18.982 Science has gone into the clinic

NOTE Confidence: 0.829668581485748

00:23:18.982 --> 00:23:21.486 and how we've evolved over 20 years

NOTE Confidence: 0.829668581485748

00:23:21.486 --> 00:23:23.782 to really make a difference in lung

NOTE Confidence: 0.829668581485748

00:23:23.858 --> 00:23:26.138 cancer with these targeted agents.

NOTE Confidence: 0.829668581485748

00:23:26.140 --> 00:23:28.128 And you can see here's project two

NOTE Confidence: 0.829668581485748

00:23:28.128 --> 00:23:30.207 of the spore so Katie Poletti leads

NOTE Confidence: 0.829668581485748

00:23:30.207 --> 00:23:32.559 us along with the rest of the team.

NOTE Confidence: 0.829668581485748

00:23:32.560 --> 00:23:34.020 You'll see in a moment,

NOTE Confidence: 0.829668581485748

00:23:34.020 --> 00:23:36.029 so we actually have programs here to

NOTE Confidence: 0.829668581485748

00:23:36.029 --> 00:23:37.819 optimize approaches to counter on target.

NOTE Confidence: 0.829668581485748

00:23:37.820 --> 00:23:39.004 EGFR dependent mechanisms of

NOTE Confidence: 0.829668581485748

00:23:39.004 --> 00:23:41.399 resistance so you can see up here we

NOTE Confidence: 0.829668581485748

00:23:41.399 --> 00:23:43.073 have mice when when patients recur,

NOTE Confidence: 0.829668581485748

00:23:43.080 --> 00:23:45.168 we get tumor and they go into the

NOTE Confidence: 0.829668581485748

00:23:45.168 --> 00:23:47.277 mouse and we have mice that are

NOTE Confidence: 0.829668581485748

00:23:47.277 --> 00:23:49.455 resistant to these drugs and we can

NOTE Confidence: 0.829668581485748

00:23:49.455 --> 00:23:51.541 try to look at new therapies and

NOTE Confidence: 0.829668581485748

00:23:51.541 --> 00:23:53.044 correlate that with patient data.

NOTE Confidence: 0.829668581485748

00:23:53.044 --> 00:23:54.549 Some of these are genetically

NOTE Confidence: 0.829668581485748

00:23:54.549 --> 00:23:56.648 engineered mice and then we can look at

NOTE Confidence: 0.829668581485748

00:23:56.648 --> 00:23:57.970 vulnerabilities of Teeki Resistance.

NOTE Confidence: 0.829668581485748

00:23:57.970 --> 00:23:59.638 In two minutes without on target.

NOTE Confidence: 0.829668581485748

00:23:59.640 --> 00:24:00.429 Here for resistance,

NOTE Confidence: 0.829668581485748

00:24:00.429 --> 00:24:02.007 there are other mechanisms and we

NOTE Confidence: 0.829668581485748

00:24:02.007 --> 00:24:03.336 have clinical trials and studies

NOTE Confidence: 0.829668581485748

00:24:03.336 --> 00:24:04.860 to look to understand why the

NOTE Confidence: 0.829668581485748

00:24:04.911 --> 00:24:06.339 patients would become resistant,

NOTE Confidence: 0.829668581485748

00:24:06.340 --> 00:24:08.008 because as good as we are,

NOTE Confidence: 0.829668581485748

00:24:08.010 --> 00:24:09.970 we're going to see this resistant merge.

NOTE Confidence: 0.829668581485748

00:24:09.970 --> 00:24:12.760 So we have to stay one step ahead of this.

NOTE Confidence: 0.829668581485748

00:24:12.760 --> 00:24:16.018 And that's what Katie and the team are doing.

NOTE Confidence: 0.829668581485748

00:24:16.020 --> 00:24:18.435 So here's that wonderful project team I

NOTE Confidence: 0.829668581485748

00:24:18.435 --> 00:24:20.655 mentioned Katie working with Sarah Goldberg

NOTE Confidence: 0.829668581485748

00:24:20.655 --> 00:24:22.535 and Mark Lemon Collaborative Group.

NOTE Confidence: 0.829668581485748

00:24:22.540 --> 00:24:25.039 You know each other projects has its

NOTE Confidence: 0.829668581485748

00:24:25.039 --> 00:24:27.969 own team that meets on a regular basis.

NOTE Confidence: 0.829668581485748

00:24:27.970 --> 00:24:29.056 Here's the list,

NOTE Confidence: 0.829668581485748

00:24:29.056 --> 00:24:29.780 you know,

NOTE Confidence: 0.829668581485748

00:24:29.780 --> 00:24:31.964 just just amazing that teamwork getting

NOTE Confidence: 0.829668581485748

00:24:31.964 --> 00:24:34.119 samples from the clinic PDX models,

NOTE Confidence: 0.829668581485748

00:24:34.120 --> 00:24:34.844 genetic models,

NOTE Confidence: 0.829668581485748

00:24:34.844 --> 00:24:36.654 drugs in collaboration with industry

NOTE Confidence: 0.829668581485748

00:24:36.654 --> 00:24:37.740 investigator initiated trials.

NOTE Confidence: 0.829668581485748

00:24:37.740 --> 00:24:40.190 That's the way we're going

NOTE Confidence: 0.829668581485748

00:24:40.190 --> 00:24:42.640 to continue to make progress

NOTE Confidence: 0.828190863132477

00:24:42.733 --> 00:24:44.068 in lung cancer.

NOTE Confidence: 0.828190863132477

00:24:44.070 --> 00:24:45.750 And you can see productivity.

NOTE Confidence: 0.828190863132477

00:24:45.750 --> 00:24:47.430 No problem with this group.

NOTE Confidence: 0.828190863132477

00:24:47.430 --> 00:24:50.118 You can see a number of key publications,

NOTE Confidence: 0.828190863132477

00:24:50.120 --> 00:24:52.130 allele specific patterns of resistant

NOTE Confidence: 0.828190863132477

00:24:52.130 --> 00:24:54.140 resistance approaches to overcome and

NOTE Confidence: 0.828190863132477

00:24:54.195 --> 00:24:55.990 prevent the emergence of resistance

NOTE Confidence: 0.828190863132477

00:24:55.990 --> 00:24:58.311 mutations to ascertain if which of course

NOTE Confidence: 0.828190863132477

00:24:58.311 --> 00:25:00.465 has only been used for a couple of years.

NOTE Confidence: 0.828190863132477

00:25:00.465 --> 00:25:02.055 So it's taking time to develop

NOTE Confidence: 0.828190863132477

00:25:02.055 --> 00:25:03.798 all this and molecular modeling

NOTE Confidence: 0.828190863132477

00:25:03.798 --> 00:25:05.570 to understand these mechanisms.

NOTE Confidence: 0.828190863132477

00:25:05.570 --> 00:25:07.734 So really really talented

NOTE Confidence: 0.828190863132477

00:25:07.734 --> 00:25:09.357 group working together.

NOTE Confidence: 0.828190863132477

00:25:09.360 --> 00:25:11.406 And then, of course brain metastases.

NOTE Confidence: 0.828190863132477

00:25:11.410 --> 00:25:13.790 We have a separate team doing that.

NOTE Confidence: 0.828190863132477

00:25:13.790 --> 00:25:16.009 We have done along with Veronica Chang

NOTE Confidence: 0.828190863132477

00:25:16.009 --> 00:25:18.106 neurosurgeon done being a basic scientist

NOTE Confidence: 0.828190863132477

00:25:18.106 --> 00:25:19.926 and Abby patellar radiation oncologist.

NOTE Confidence: 0.828190863132477

00:25:19.930 --> 00:25:20.989 That translation researcher,

NOTE Confidence: 0.828190863132477

00:25:20.989 --> 00:25:23.460 so there trying to look at mediators

NOTE Confidence: 0.828190863132477

00:25:23.522 --> 00:25:25.382 of CNS metastasis to lung cancer

NOTE Confidence: 0.828190863132477

00:25:25.382 --> 00:25:27.031 were getting CSF samples from

NOTE Confidence: 0.828190863132477

00:25:27.031 --> 00:25:28.796 patients who have lung metastases.

NOTE Confidence: 0.828190863132477

00:25:28.800 --> 00:25:31.383 To understand what's going on going on

NOTE Confidence: 0.828190863132477

00:25:31.383 --> 00:25:34.757 in the CSF in the cerebral spinal fluid.

NOTE Confidence: 0.828190863132477

00:25:34.760 --> 00:25:36.998 And then we're going to understand

NOTE Confidence: 0.828190863132477

00:25:36.998 --> 00:25:38.952 adaptive mechanisms of tumor dissemination

NOTE Confidence: 0.828190863132477

00:25:38.952 --> 00:25:41.340 and drug resistance in the brain.

NOTE Confidence: 0.828190863132477

00:25:41.340 --> 00:25:44.049 A number of key papers already published,

NOTE Confidence: 0.828190863132477

00:25:44.050 --> 00:25:46.262 and then we're going to use this

NOTE Confidence: 0.828190863132477

00:25:46.262 --> 00:25:48.263 CSF to identify biomarkers and

NOTE Confidence: 0.828190863132477

00:25:48.263 --> 00:25:50.235 genetic drivers of metastases.

NOTE Confidence: 0.828190863132477

00:25:50.240 --> 00:25:53.336 So all of this already on going again,

NOTE Confidence: 0.828190863132477

00:25:53.340 --> 00:25:54.642 the lab,

NOTE Confidence: 0.828190863132477

00:25:54.642 --> 00:25:57.246 the clinic interspersed together.

NOTE Confidence: 0.828190863132477

00:25:57.250 --> 00:26:00.698 So with that on now focused on immunotherapy.

NOTE Confidence: 0.828190863132477

00:26:00.700 --> 00:26:03.521 So if all we have already talked

NOTE Confidence: 0.828190863132477

00:26:03.521 --> 00:26:05.440 about was not enough,

NOTE Confidence: 0.828190863132477

00:26:05.440 --> 00:26:09.108 amino therapy is perhaps even more powerful

NOTE Confidence: 0.828190863132477

00:26:09.108 --> 00:26:13.499 tool if we can learn how to harness it.

NOTE Confidence: 0.828190863132477

00:26:13.500 --> 00:26:16.048 Well, I've been at yell since 2011.

NOTE Confidence: 0.828190863132477

00:26:16.050 --> 00:26:18.228 This is the patient from 2010,

NOTE Confidence: 0.828190863132477

00:26:18.230 --> 00:26:21.078 so one of the reasons I was attracted

NOTE Confidence: 0.828190863132477

00:26:21.078 --> 00:26:24.250 to come here as I met with Scott and

NOTE Confidence: 0.828190863132477

00:26:24.250 --> 00:26:27.327 Mario and they told me about this thing.

NOTE Confidence: 0.828190863132477

00:26:27.330 --> 00:26:30.234 MD X 1106 I was at MD Anderson.

NOTE Confidence: 0.828190863132477

00:26:30.240 --> 00:26:32.430 We didn't know anything about it.

NOTE Confidence: 0.828190863132477

00:26:32.430 --> 00:26:34.520 We weren't doing any immunotherapy

NOTE Confidence: 0.828190863132477

00:26:34.520 --> 00:26:37.255 work back then and Scott showed me

NOTE Confidence: 0.828190863132477

00:26:37.255 --> 00:26:39.989 some X Rays and I said wow and really

NOTE Confidence: 0.828190863132477

00:26:39.989 --> 00:26:41.890 is Scott Mario, Harriet Cougar.

NOTE Confidence: 0.828190863132477

00:26:41.890 --> 00:26:43.350 They really, you know,

NOTE Confidence: 0.828190863132477

00:26:43.350 --> 00:26:44.690 initiated this clinical field.

NOTE Confidence: 0.828190863132477

00:26:44.690 --> 00:26:46.365 Patients with refractory lung cancer.

NOTE Confidence: 0.828190863132477

00:26:46.370 --> 00:26:47.249 This is Maureen.

NOTE Confidence: 0.828190863132477

00:26:47.249 --> 00:26:49.300 This is a center point so I'm

NOTE Confidence: 0.828190863132477

00:26:49.373 --> 00:26:50.968 able to show her picture.

NOTE Confidence: 0.828190863132477

00:26:50.970 --> 00:26:52.867 But here we have a patient with

NOTE Confidence: 0.828190863132477

00:26:52.867 --> 00:26:54.104 refractory disease three times

NOTE Confidence: 0.828190863132477

00:26:54.104 --> 00:26:55.576 refractory squamous lung cancer.

NOTE Confidence: 0.828190863132477

00:26:55.580 --> 00:26:58.334 Very few of them Lego markers would be there.

NOTE Confidence: 0.828190863132477

00:26:58.340 --> 00:27:00.164 There would be very little targeted

NOTE Confidence: 0.828190863132477

00:27:00.164 --> 00:27:02.019 therapy for this type of patient,

NOTE Confidence: 0.828190863132477

00:27:02.020 --> 00:27:03.814 but look at this response but

NOTE Confidence: 0.828190863132477

00:27:03.814 --> 00:27:05.383 more important than this amazing

NOTE Confidence: 0.828190863132477

00:27:05.383 --> 00:27:07.237 response is now 10 years later,

NOTE Confidence: 0.828190863132477

00:27:07.240 --> 00:27:10.550 she's still alive and well.

NOTE Confidence: 0.828190863132477

00:27:10.550 --> 00:27:12.200 So we actually because of the

NOTE Confidence: 0.828190863132477

00:27:12.200 --> 00:27:13.300 work we've done subsequently,

NOTE Confidence: 0.828190863132477

00:27:13.300 --> 00:27:14.445 Bob Sherwin and teacher Johnson

NOTE Confidence: 0.828190863132477

00:27:14.445 --> 00:27:16.613 put us in for Team Science Award at

NOTE Confidence: 0.828190863132477

00:27:16.613 --> 00:27:18.238 the Association for clinical and

NOTE Confidence: 0.828190863132477

00:27:18.238 --> 00:27:19.350 Translational Science and loan.

NOTE Confidence: 0.828190863132477

00:27:19.350 --> 00:27:20.450 Behold, we got it.

NOTE Confidence: 0.828190863132477

00:27:20.450 --> 00:27:21.000 You know,

NOTE Confidence: 0.828190863132477

00:27:21.000 --> 00:27:23.200 a little bit of money that we split,

NOTE Confidence: 0.828190863132477

00:27:23.200 --> 00:27:25.468 but you can see you know these are just

NOTE Confidence: 0.828190863132477

00:27:25.468 --> 00:27:27.879 a few of the many people at captain.

NOTE Confidence: 0.828190863132477

00:27:27.880 --> 00:27:29.250 Of course, Harriet Mario snow.

NOTE Confidence: 0.828190863132477

00:27:29.250 --> 00:27:31.008 And then of course sleeping my

NOTE Confidence: 0.828190863132477

00:27:31.008 --> 00:27:32.180 good friend and collaborator

NOTE Confidence: 0.828190863132477

00:27:32.236 --> 00:27:33.376 a team working on this,

NOTE Confidence: 0.828190863132477

00:27:33.380 --> 00:27:36.054 and I'm going to show you more

NOTE Confidence: 0.828190863132477

00:27:36.054 --> 00:27:38.100 recent work from this team.

NOTE Confidence: 0.828190863132477

00:27:38.100 --> 00:27:39.731 So I'm going to ask the question

NOTE Confidence: 0.828190863132477

00:27:39.731 --> 00:27:40.430 and I don't

NOTE Confidence: 0.832143545150757

00:27:40.490 --> 00:27:42.570 know if it's the beta is watching if

NOTE Confidence: 0.832143545150757

00:27:42.570 --> 00:27:44.258 this weather regular grand rounds.

NOTE Confidence: 0.832143545150757

00:27:44.260 --> 00:27:46.672 I looked on the right and I'd seen there,

NOTE Confidence: 0.832143545150757

00:27:46.680 --> 00:27:48.549 but he's inspired me for many years.

NOTE Confidence: 0.832143545150757

00:27:48.550 --> 00:27:50.776 Can we cure metastatic lung cancer?

NOTE Confidence: 0.832143545150757

00:27:50.780 --> 00:27:51.812 A question you wouldn't

NOTE Confidence: 0.832143545150757

00:27:51.812 --> 00:27:53.102 even asked 20 years ago.

NOTE Confidence: 0.832143545150757

00:27:53.110 --> 00:27:54.916 Of course, not even ten years ago,

NOTE Confidence: 0.832143545150757

00:27:54.920 --> 00:27:57.000 but I'd like to ask that question today.

NOTE Confidence: 0.832143545150757

00:27:57.000 --> 00:27:58.608 And then we'll we'll talk about

NOTE Confidence: 0.832143545150757

00:27:58.608 --> 00:28:00.620 it at the very end of my talk.

NOTE Confidence: 0.832143545150757

00:28:00.620 --> 00:28:02.684 I tried to read up a little bit.

NOTE Confidence: 0.832143545150757

00:28:02.690 --> 00:28:04.783 What's the definition of cure to restore

NOTE Confidence: 0.832143545150757

00:28:04.783 --> 00:28:06.808 health to bring about recovery from?

NOTE Confidence: 0.832143545150757

00:28:06.810 --> 00:28:08.350 I look up at Hippocrates.

NOTE Confidence: 0.832143545150757

00:28:08.350 --> 00:28:08.962 Cure sometimes.

NOTE Confidence: 0.832143545150757

00:28:08.962 --> 00:28:10.186 Treat often comfort always,

NOTE Confidence: 0.832143545150757

00:28:10.190 --> 00:28:12.638 but this is the most inspiring book we,

NOTE Confidence: 0.832143545150757

00:28:12.640 --> 00:28:14.929 of course, had a grand rounds with

NOTE Confidence: 0.832143545150757

00:28:14.929 --> 00:28:16.939 Vince and Elizabeth a few years ago.

NOTE Confidence: 0.832143545150757

00:28:16.940 --> 00:28:18.480 The way that they cured,

NOTE Confidence: 0.832143545150757

00:28:18.480 --> 00:28:20.010 shouted Lymphoma and adult lymphomas.

NOTE Confidence: 0.832143545150757

00:28:20.010 --> 00:28:22.159 Can we do that in lung cancer?

NOTE Confidence: 0.832143545150757

00:28:22.160 --> 00:28:22.467 Remember,

NOTE Confidence: 0.832143545150757

00:28:22.467 --> 00:28:24.616 lung cancer is a little bit different.

NOTE Confidence: 0.832143545150757

00:28:24.620 --> 00:28:26.155 Disease also affects people who

NOTE Confidence: 0.832143545150757

00:28:26.155 --> 00:28:27.690 are older and more comorbidities,

NOTE Confidence: 0.832143545150757

00:28:27.690 --> 00:28:29.526 but keep that question in mind.

NOTE Confidence: 0.832143545150757

00:28:29.530 --> 00:28:31.822 'cause I'm going to ask you

NOTE Confidence: 0.832143545150757

00:28:31.822 --> 00:28:34.120 again in about 20 minutes.

NOTE Confidence: 0.832143545150757

00:28:34.120 --> 00:28:34.393 Well,

NOTE Confidence: 0.832143545150757

00:28:34.393 --> 00:28:36.304 lung cancer therapies just evolve so quickly,

NOTE Confidence: 0.832143545150757

00:28:36.310 --> 00:28:38.228 so this first round up here keynote,

NOTE Confidence: 0.832143545150757

00:28:38.230 --> 00:28:40.148 one call later, was the of this.

NOTE Confidence: 0.832143545150757

00:28:40.150 --> 00:28:42.005 He's an author on the New England

NOTE Confidence: 0.832143545150757

00:28:42.005 --> 00:28:43.160 Journal of Medicine Paper.

NOTE Confidence: 0.832143545150757

00:28:43.160 --> 00:28:45.336 We had this in our phase one clinic

NOTE Confidence: 0.832143545150757

00:28:45.336 --> 00:28:47.007 you'll still bump into patients in

NOTE Confidence: 0.832143545150757

00:28:47.007 --> 00:28:49.210 the Hall who were on this trial 678

NOTE Confidence: 0.832143545150757

00:28:49.210 --> 00:28:51.107 years ago who are alive and well.

NOTE Confidence: 0.832143545150757

00:28:51.110 --> 00:28:52.480 This was Pember Lizum app.

NOTE Confidence: 0.832143545150757

00:28:52.480 --> 00:28:54.272 It was given to all comers in a

NOTE Confidence: 0.832143545150757

00:28:54.272 --> 00:28:56.310 number of different lung cancer types,

NOTE Confidence: 0.832143545150757

00:28:56.310 --> 00:28:58.275 but subsequently the biomarker was

NOTE Confidence: 0.832143545150757

00:28:58.275 --> 00:29:01.578 shown to predict who did a bit better PDL 1.

NOTE Confidence: 0.832143545150757

00:29:01.580 --> 00:29:02.639 I got involved.

NOTE Confidence: 0.832143545150757

00:29:02.639 --> 00:29:05.110 This is a trial Iran keynote 10.

NOTE Confidence: 0.832143545150757

00:29:05.110 --> 00:29:07.120 This resulted in Pember Lizum app

NOTE Confidence: 0.832143545150757

00:29:07.120 --> 00:29:09.699 getting licensed in the second line setting.

NOTE Confidence: 0.832143545150757

00:29:09.700 --> 00:29:11.900 We actually showed that a two doses when

NOTE Confidence: 0.832143545150757

00:29:11.900 --> 00:29:14.290 you use pembrolizumab versus docetaxel,

NOTE Confidence: 0.832143545150757

00:29:14.290 --> 00:29:15.698 either selecting for all

NOTE Confidence: 0.832143545150757

00:29:15.698 --> 00:29:17.834 patients with 1% or more PDL.

NOTE Confidence: 0.832143545150757

00:29:17.834 --> 00:29:20.999 One or patients with high PD L1 at 50%.

NOTE Confidence: 0.832143545150757

00:29:21.000 --> 00:29:23.720 We saw a significant benefit.

NOTE Confidence: 0.832143545150757

00:29:23.720 --> 00:29:24.614 Then of course,

NOTE Confidence: 0.832143545150757

00:29:24.614 --> 00:29:26.104 from this trout the biomarker

NOTE Confidence: 0.832143545150757

00:29:26.104 --> 00:29:27.479 was used in Frontline.

NOTE Confidence: 0.832143545150757

00:29:27.480 --> 00:29:28.194 Keynote 24.

NOTE Confidence: 0.832143545150757

00:29:28.194 --> 00:29:29.265 Parallelism addresses chemotherapy

NOTE Confidence: 0.832143545150757

00:29:29.265 --> 00:29:31.890 the five year data for this will also

NOTE Confidence: 0.832143545150757

00:29:31.890 --> 00:29:33.731 be presented this this week in Ezmo.

NOTE Confidence: 0.832143545150757

00:29:33.740 --> 00:29:34.318 Trust me,

NOTE Confidence: 0.832143545150757

00:29:34.318 --> 00:29:36.052 it looks pretty good and then

NOTE Confidence: 0.832143545150757

00:29:36.052 --> 00:29:38.117 you can see the Pacific Travel.

NOTE Confidence: 0.832143545150757

00:29:38.120 --> 00:29:40.255 This is even this is again sort

NOTE Confidence: 0.832143545150757

00:29:40.255 --> 00:29:41.869 of like with the Dora.

NOTE Confidence: 0.832143545150757

00:29:41.870 --> 00:29:43.904 This is stage three lung cancer

NOTE Confidence: 0.832143545150757

00:29:43.904 --> 00:29:46.139 using their vile map and you

NOTE Confidence: 0.832143545150757

00:29:46.139 --> 00:29:48.159 can see improvement in survival

NOTE Confidence: 0.832143545150757

00:29:48.159 --> 00:29:49.371 after chemo radiation.

NOTE Confidence: 0.832143545150757

00:29:49.380 --> 00:29:52.040 But I wanted to show some of our own data,

NOTE Confidence: 0.832143545150757

00:29:52.040 --> 00:29:53.895 so here's Scott's trial. Scott and Mario.

NOTE Confidence: 0.832143545150757

00:29:53.900 --> 00:29:55.230 This is where Maureen was.

NOTE Confidence: 0.832143545150757

00:29:55.230 --> 00:29:57.134 She was on this trial and look at

NOTE Confidence: 0.832143545150757

00:29:57.134 --> 00:29:58.559 the actuarial five year survival

NOTE Confidence: 0.832143545150757

00:29:58.559 --> 00:29:59.747 from that first trial.

NOTE Confidence: 0.832143545150757

00:29:59.750 --> 00:30:01.878 And if all mad here at Yeah 16%

NOTE Confidence: 0.832143545150757

00:30:01.880 --> 00:30:03.476 and you know what Scott knows,

NOTE Confidence: 0.832143545150757

00:30:03.480 --> 00:30:04.956 everyone of those patients who is

NOTE Confidence: 0.832143545150757

00:30:04.956 --> 00:30:06.562 alive and he's got their samples

NOTE Confidence: 0.832143545150757

00:30:06.562 --> 00:30:08.266 and he's analyzing them right now.

NOTE Confidence: 0.832143545150757

00:30:08.270 --> 00:30:10.655 But you know, it's really all about the tail.

NOTE Confidence: 0.832143545150757

00:30:10.660 --> 00:30:13.045 So if you look at this survival curve now,

NOTE Confidence: 0.8449826836586

00:30:13.050 --> 00:30:14.380 we gotta do better here.

NOTE Confidence: 0.8449826836586

00:30:14.380 --> 00:30:16.228 We lose a lot of patients early

NOTE Confidence: 0.8449826836586

00:30:16.228 --> 00:30:18.107 on when they get to this tale.

NOTE Confidence: 0.8449826836586

00:30:18.110 --> 00:30:19.214 Is it as good?

NOTE Confidence: 0.8449826836586

00:30:19.214 --> 00:30:20.870 I look at this with Mario.

NOTE Confidence: 0.8449826836586

00:30:20.870 --> 00:30:22.725 Today is it as good as Melanoma?

NOTE Confidence: 0.8449826836586

00:30:22.730 --> 00:30:24.578 Maybe not quite it, still earlier too.

NOTE Confidence: 0.8449826836586

00:30:24.580 --> 00:30:26.700 And this is a disease you know of.

NOTE Confidence: 0.8449826836586

00:30:26.700 --> 00:30:28.555 People who smoke and have other mutations,

NOTE Confidence: 0.8449826836586

00:30:28.560 --> 00:30:29.844 but you know what?

NOTE Confidence: 0.8449826836586

00:30:29.844 --> 00:30:32.030 It's looking pretty darn good to me.

NOTE Confidence: 0.8449826836586

00:30:32.030 --> 00:30:33.154 And then of course,

NOTE Confidence: 0.8449826836586

00:30:33.154 --> 00:30:35.370 you know you've got a credit Harriet,

NOTE Confidence: 0.8449826836586

00:30:35.370 --> 00:30:36.890 for her constant mentor ship.

NOTE Confidence: 0.8449826836586

00:30:36.890 --> 00:30:39.146 We know working with Sarah early on in

NOTE Confidence: 0.8449826836586

00:30:39.146 --> 00:30:41.148 her tenure here and Veronica again,

NOTE Confidence: 0.8449826836586

00:30:41.150 --> 00:30:41.756 our neurosurgeon.

NOTE Confidence: 0.8449826836586

00:30:41.756 --> 00:30:42.968 And they actually said,

NOTE Confidence: 0.8449826836586

00:30:42.970 --> 00:30:44.979 why do we have to exclude patients

NOTE Confidence: 0.8449826836586

00:30:44.979 --> 00:30:46.929 with brain Mets from these trials?

NOTE Confidence: 0.8449826836586

00:30:46.930 --> 00:30:48.445 That's not the real world

NOTE Confidence: 0.8449826836586

00:30:48.445 --> 00:30:49.657 questions have brain Mets.

NOTE Confidence: 0.8449826836586

00:30:49.660 --> 00:30:51.238 So here's a patient with lung

NOTE Confidence: 0.8449826836586

00:30:51.238 --> 00:30:52.741 cancer with brain Mets was

NOTE Confidence: 0.8449826836586

00:30:52.741 --> 00:30:53.920 treated with Pembrolizumab,

NOTE Confidence: 0.8449826836586

00:30:53.920 --> 00:30:55.738 and those brain Mets went away.

NOTE Confidence: 0.8449826836586

00:30:55.740 --> 00:30:56.996 This was an investigator

NOTE Confidence: 0.8449826836586

00:30:56.996 --> 00:30:58.252 initiated trial because we're

NOTE Confidence: 0.8449826836586

00:30:58.252 --> 00:30:59.999 doing some of the keynote trials,

NOTE Confidence: 0.8449826836586

00:31:00.000 --> 00:31:01.848 we were able to get a

NOTE Confidence: 0.8449826836586

00:31:01.848 --> 00:31:02.772 relationship with Merck.

NOTE Confidence: 0.8449826836586

00:31:02.780 --> 00:31:04.328 It helped us to get this

NOTE Confidence: 0.8449826836586

00:31:04.328 --> 00:31:06.000 drug in lung and Melanoma.

NOTE Confidence: 0.8449826836586

00:31:06.000 --> 00:31:07.818 They collaborated together and what this

NOTE Confidence: 0.8449826836586

00:31:07.818 --> 00:31:10.107 is showing as this is a wonderful plot.

NOTE Confidence: 0.8449826836586

00:31:10.110 --> 00:31:11.712 Each of these points below the

NOTE Confidence: 0.8449826836586

00:31:11.712 --> 00:31:13.620 line is a patient who responded,

NOTE Confidence: 0.8449826836586

00:31:13.620 --> 00:31:15.552 but what you can see is the

NOTE Confidence: 0.8449826836586

00:31:15.552 --> 00:31:17.359 response in the brain and the

NOTE Confidence: 0.8449826836586

00:31:17.359 --> 00:31:19.473 lung looked to be about the same.

NOTE Confidence: 0.8449826836586

00:31:19.480 --> 00:31:21.208 So now real world trials and

NOTE Confidence: 0.8449826836586

00:31:21.208 --> 00:31:22.360 neutrals are allowing patients

NOTE Confidence: 0.8449826836586

00:31:22.411 --> 00:31:24.109 with brain Mets to get parallelism

NOTE Confidence: 0.8449826836586

00:31:24.109 --> 00:31:25.594 at 'cause it apparently works

NOTE Confidence: 0.8449826836586

00:31:25.594 --> 00:31:27.099 across the blood brain barrier.

NOTE Confidence: 0.8449826836586

00:31:27.100 --> 00:31:28.231 That's very important.

NOTE Confidence: 0.8449826836586

00:31:28.231 --> 00:31:30.870 So where are we at right now?

NOTE Confidence: 0.8449826836586

00:31:30.870 --> 00:31:31.196 Again,

NOTE Confidence: 0.8449826836586

00:31:31.196 --> 00:31:32.826 I only have an hour,

NOTE Confidence: 0.8449826836586

00:31:32.830 --> 00:31:35.755 but here's a nice slide made by hand Chen.

NOTE Confidence: 0.8449826836586

00:31:35.760 --> 00:31:38.042 She wrote a beautiful review in nature

NOTE Confidence: 0.8449826836586

00:31:38.042 --> 00:31:39.998 reviews clinical oncology earlier this year,

NOTE Confidence: 0.8449826836586

00:31:40.000 --> 00:31:41.956 and basically we look at squamous

NOTE Confidence: 0.8449826836586

00:31:41.956 --> 00:31:43.260 or nonsquamous lung cancer.

NOTE Confidence: 0.8449826836586

00:31:43.260 --> 00:31:45.353 And we look at PDL one expression

NOTE Confidence: 0.8449826836586

00:31:45.353 --> 00:31:47.704 and we have we have therapies for

NOTE Confidence: 0.8449826836586

00:31:47.704 --> 00:31:50.106 patients who have less than 1% PDL,

NOTE Confidence: 0.8449826836586

00:31:50.106 --> 00:31:52.714 1 one to 49% pdo one or greater

NOTE Confidence: 0.8449826836586

00:31:52.714 --> 00:31:53.948 than 50% PDL 1,

NOTE Confidence: 0.8449826836586

00:31:53.948 --> 00:31:55.971 and that's sort of the way things

NOTE Confidence: 0.8449826836586

00:31:55.971 --> 00:31:58.079 are assorted right now and approved

NOTE Confidence: 0.8449826836586

00:31:58.079 --> 00:32:00.549 as a single agent are two drugs.

NOTE Confidence: 0.8449826836586

00:32:00.550 --> 00:32:02.382 Humble is a map and a Texel is

NOTE Confidence: 0.8449826836586

00:32:02.382 --> 00:32:04.461 a map where you can give these

NOTE Confidence: 0.8449826836586

00:32:04.461 --> 00:32:06.280 to patients with high PD L1.

NOTE Confidence: 0.8449826836586

00:32:06.280 --> 00:32:07.714 They don't even need chemotherapy just

NOTE Confidence: 0.8449826836586

00:32:07.714 --> 00:32:09.560 for the sake of today's discussion,

NOTE Confidence: 0.8449826836586

00:32:09.560 --> 00:32:11.528 I'm going to talk about a Tesla is

NOTE Confidence: 0.8449826836586

00:32:11.528 --> 00:32:13.633 a mad 'cause Yale has had a very

NOTE Confidence: 0.8449826836586

00:32:13.633 --> 00:32:15.335 big part in its development and

NOTE Confidence: 0.8449826836586

00:32:15.335 --> 00:32:17.743 I'm going to show you how we took

NOTE Confidence: 0.8449826836586

00:32:17.750 --> 00:32:20.150 this drug all the way from the very

NOTE Confidence: 0.8449826836586

00:32:20.150 --> 00:32:22.397 first in human dose now to face.

NOTE Confidence: 0.8449826836586

00:32:22.400 --> 00:32:24.856 So about 2012 you know Paul and I

NOTE Confidence: 0.8449826836586

00:32:24.856 --> 00:32:26.660 were approached by by IRA Mellman.

NOTE Confidence: 0.8449826836586

00:32:26.660 --> 00:32:29.092 Some of you might know, IRA and IRA,

NOTE Confidence: 0.8449826836586

00:32:29.092 --> 00:32:31.220 of course, had an affinity for Yale.

NOTE Confidence: 0.8449826836586

00:32:31.220 --> 00:32:31.802 He had,

NOTE Confidence: 0.8449826836586

00:32:31.802 --> 00:32:33.839 I believe he was the scientific director

NOTE Confidence: 0.8449826836586

00:32:33.839 --> 00:32:36.077 of the Cancer Center for many years,

NOTE Confidence: 0.8449826836586

00:32:36.080 --> 00:32:37.380 and I actually knew him

NOTE Confidence: 0.8449826836586

00:32:37.380 --> 00:32:39.500 'cause I took his course as a

NOTE Confidence: 0.8449826836586

00:32:39.500 --> 00:32:40.640 Rockefeller graduate students.

NOTE Confidence: 0.8449826836586

00:32:40.640 --> 00:32:42.768 So I've ever called and they said,

NOTE Confidence: 0.8449826836586

00:32:42.770 --> 00:32:45.497 would you like to be involved in this trial?

NOTE Confidence: 0.798537015914917

00:32:45.500 --> 00:32:47.330 And he said, yes, we said,

NOTE Confidence: 0.798537015914917

00:32:47.330 --> 00:32:49.304 can we do a trial with your

NOTE Confidence: 0.798537015914917

00:32:49.304 --> 00:32:50.980 new drug test Alyssa Map,

NOTE Confidence: 0.798537015914917

00:32:50.980 --> 00:32:52.816 which is a PD L1 inhibitor.

NOTE Confidence: 0.798537015914917

00:32:52.820 --> 00:32:55.601 That PD, one PD, L1 or can we include

NOTE Confidence: 0.798537015914917

00:32:55.601 --> 00:32:58.065 biopsies because we like to do biopsies.

NOTE Confidence: 0.798537015914917

00:32:58.070 --> 00:33:00.374 We had that working and we want to

NOTE Confidence: 0.798537015914917

00:33:00.374 --> 00:33:02.448 understand the mechanism and they actually

NOTE Confidence: 0.798537015914917

00:33:02.448 --> 00:33:04.984 said sure so working closely with Scott

NOTE Confidence: 0.798537015914917

00:33:04.984 --> 00:33:07.245 and then Petrol Act was very involved.

NOTE Confidence: 0.798537015914917

00:33:07.250 --> 00:33:09.284 They had amazing data and bladder

NOTE Confidence: 0.798537015914917

00:33:09.284 --> 00:33:11.520 cancer and with Paul and then Pat.

NOTE Confidence: 0.798537015914917

00:33:11.520 --> 00:33:13.936 When she arrived we did this trial and

NOTE Confidence: 0.798537015914917

00:33:13.936 --> 00:33:16.761 we treated almost 30 patients, maybe 35 here.

NOTE Confidence: 0.798537015914917

00:33:16.761 --> 00:33:18.723 And yeah and we got biopsy.

NOTE Confidence: 0.798537015914917

00:33:18.730 --> 00:33:20.928 So here's a patient with multiple lung

NOTE Confidence: 0.798537015914917

00:33:20.928 --> 00:33:23.028 metastases who had a complete response.

NOTE Confidence: 0.798537015914917

00:33:23.030 --> 00:33:25.214 And in this patient we gotta buy a

NOTE Confidence: 0.798537015914917

00:33:25.214 --> 00:33:26.745 seat recruitment and biopsy where

NOTE Confidence: 0.798537015914917

00:33:26.745 --> 00:33:28.285 they they went off treatment.

NOTE Confidence: 0.798537015914917

00:33:28.290 --> 00:33:30.084 And that's very helpful because you

NOTE Confidence: 0.798537015914917

00:33:30.084 --> 00:33:32.760 could look at CD 8 cells and these are T

NOTE Confidence: 0.798537015914917

00:33:32.760 --> 00:33:34.749 cells and you can see before treatment

NOTE Confidence: 0.798537015914917

00:33:34.749 --> 00:33:37.045 there's not very much CD sales here.

NOTE Confidence: 0.798537015914917

00:33:37.050 --> 00:33:38.736 But after treatment the T cells

NOTE Confidence: 0.798537015914917

00:33:38.736 --> 00:33:40.260 all swarm into the tumor.

NOTE Confidence: 0.798537015914917

00:33:40.260 --> 00:33:42.006 That's an example of the adaptive

NOTE Confidence: 0.798537015914917

00:33:42.006 --> 00:33:42.588 immune response,

NOTE Confidence: 0.798537015914917

00:33:42.590 --> 00:33:44.216 so we actually in our publication

NOTE Confidence: 0.798537015914917

00:33:44.216 --> 00:33:45.916 and from this work described what

NOTE Confidence: 0.798537015914917

00:33:45.916 --> 00:33:47.883 was happening at the level of the

NOTE Confidence: 0.798537015914917

00:33:47.883 --> 00:33:49.781 tumor in patients who are getting

NOTE Confidence: 0.798537015914917

00:33:49.781 --> 00:33:51.341 these drugs even more incredible

NOTE Confidence: 0.798537015914917

00:33:51.350 --> 00:33:53.464 is this RNA chip that we did.

NOTE Confidence: 0.798537015914917

00:33:53.470 --> 00:33:54.726 Again, working with Iran.

NOTE Confidence: 0.798537015914917

00:33:54.726 --> 00:33:56.296 Danshen Steve Odeon Farberware involved.

NOTE Confidence: 0.798537015914917

00:33:56.300 --> 00:33:58.694 We had a collaborative team as many

NOTE Confidence: 0.798537015914917

00:33:58.694 --> 00:34:00.602 of these clinical trials are but

NOTE Confidence: 0.798537015914917

00:34:00.602 --> 00:34:02.890 you can see pre and post on this.

NOTE Confidence: 0.798537015914917

00:34:02.890 --> 00:34:04.829 The Green is pretty yellow is post

NOTE Confidence: 0.798537015914917

00:34:04.829 --> 00:34:07.074 so you can see Granzyme granzyme is

NOTE Confidence: 0.798537015914917

00:34:07.074 --> 00:34:09.484 an enzyme that's made by cells having

NOTE Confidence: 0.798537015914917

00:34:09.484 --> 00:34:11.682 an active immune response so you can

NOTE Confidence: 0.798537015914917

00:34:11.682 --> 00:34:14.188 see the grandson goes up in the post.

NOTE Confidence: 0.798537015914917

00:34:14.190 --> 00:34:16.318 This is a patient having good immune

NOTE Confidence: 0.798537015914917

00:34:16.318 --> 00:34:18.026 response on here is perforant

NOTE Confidence: 0.798537015914917

00:34:18.026 --> 00:34:19.861 preference thing about Perforant as

NOTE Confidence: 0.798537015914917

00:34:19.861 --> 00:34:22.315 being an enzyme that makes a hole in

NOTE Confidence: 0.798537015914917

00:34:22.315 --> 00:34:24.492 the tumor cell and cause it to burst.

NOTE Confidence: 0.798537015914917

00:34:24.492 --> 00:34:26.256 Looking at the hyperforin that you

NOTE Confidence: 0.798537015914917

00:34:26.256 --> 00:34:28.348 see after treatment versus before,

NOTE Confidence: 0.798537015914917

00:34:28.350 --> 00:34:30.702 so we defined in this the adaptive

NOTE Confidence: 0.798537015914917

00:34:30.702 --> 00:34:31.710 active immune response.

NOTE Confidence: 0.798537015914917

00:34:31.710 --> 00:34:34.006 This was 20% of the patients keep

NOTE Confidence: 0.798537015914917

00:34:34.006 --> 00:34:35.400 that number in mind,

NOTE Confidence: 0.798537015914917

00:34:35.400 --> 00:34:38.088 but most of the patients did not respond,

NOTE Confidence: 0.798537015914917

00:34:38.090 --> 00:34:40.435 so we also had profiles of Nonresponders.

NOTE Confidence: 0.798537015914917

00:34:40.440 --> 00:34:42.456 So here are three different profiles

NOTE Confidence: 0.798537015914917

00:34:42.456 --> 00:34:43.464 of non respondents,

NOTE Confidence: 0.798537015914917

00:34:43.470 --> 00:34:45.822 again with CDA we had one group

NOTE Confidence: 0.798537015914917

00:34:45.822 --> 00:34:46.830 called immune ignorance.

NOTE Confidence: 0.798537015914917

00:34:46.830 --> 00:34:49.854 These are patients with no T cells to

NOTE Confidence: 0.798537015914917

00:34:49.854 --> 00:34:53.210 begin with and no T cells to be at the end.

NOTE Confidence: 0.798537015914917

00:34:53.210 --> 00:34:55.978 The tumor just laughs at what we're doing.

NOTE Confidence: 0.798537015914917

00:34:55.980 --> 00:34:58.890 We call this the immune desert.

NOTE Confidence: 0.798537015914917

00:34:58.890 --> 00:35:00.522 Then you have the non functional

NOTE Confidence: 0.798537015914917

00:35:00.522 --> 00:35:01.066 immune response.

NOTE Confidence: 0.798537015914917

00:35:01.070 --> 00:35:02.981 We can see a good number of

NOTE Confidence: 0.798537015914917

00:35:02.981 --> 00:35:03.800 cytotoxic T cells,

NOTE Confidence: 0.798537015914917

00:35:03.800 --> 00:35:05.984 maybe get a little bit of an increase.

NOTE Confidence: 0.798537015914917

00:35:05.990 --> 00:35:06.998 It's in the paper.

NOTE Confidence: 0.798537015914917

00:35:06.998 --> 00:35:09.724 I don't have time to show it to you with

NOTE Confidence: 0.798537015914917

00:35:09.724 --> 00:35:11.446 that immune ship would be negative.

NOTE Confidence: 0.798537015914917

00:35:11.450 --> 00:35:13.088 No activation of the T cells.

NOTE Confidence: 0.798537015914917

00:35:13.090 --> 00:35:14.114 You don't send it.

NOTE Confidence: 0.798537015914917

00:35:14.114 --> 00:35:15.650 See anything going up and then

NOTE Confidence: 0.798537015914917

00:35:15.712 --> 00:35:17.177 we have the immune excluded.

NOTE Confidence: 0.798537015914917

00:35:17.180 --> 00:35:18.776 This is very interesting where the

NOTE Confidence: 0.798537015914917

00:35:18.776 --> 00:35:20.996 T cells don't get to the tumor and

NOTE Confidence: 0.798537015914917

00:35:20.996 --> 00:35:22.652 this is something we're very actively

NOTE Confidence: 0.838966846466064

00:35:22.707 --> 00:35:23.727 studying in the lab.

NOTE Confidence: 0.838966846466064

00:35:23.730 --> 00:35:25.333 How can we get these T cells

NOTE Confidence: 0.838966846466064

00:35:25.333 --> 00:35:27.042 to the tumor because of their

NOTE Confidence: 0.838966846466064

00:35:27.042 --> 00:35:28.974 interact with the tumor and within?

NOTE Confidence: 0.838966846466064

00:35:28.980 --> 00:35:30.480 They're not going to activate,

NOTE Confidence: 0.838966846466064

00:35:30.480 --> 00:35:32.566 so we understood the patterns of resistance.

NOTE Confidence: 0.838966846466064

00:35:32.570 --> 00:35:35.690 Now let's do something about it.

NOTE Confidence: 0.838966846466064

00:35:35.690 --> 00:35:37.890 Well, we get a great deal of work

NOTE Confidence: 0.838966846466064

00:35:37.890 --> 00:35:40.247 with the Tassel is a might Academy

NOTE Confidence: 0.838966846466064

00:35:40.247 --> 00:35:42.580 licensed in the second line setting.

NOTE Confidence: 0.838966846466064

00:35:42.580 --> 00:35:44.220 You'll see patients around our

NOTE Confidence: 0.838966846466064

00:35:44.220 --> 00:35:46.190 center who are benefiting from this.

NOTE Confidence: 0.838966846466064

00:35:46.190 --> 00:35:47.255 It's just amazing.

NOTE Confidence: 0.838966846466064

00:35:47.255 --> 00:35:49.740 So then we're off for the opportunity

NOTE Confidence: 0.838966846466064

00:35:49.809 --> 00:35:51.895 to lead the phase three trial using

NOTE Confidence: 0.838966846466064

00:35:51.895 --> 00:35:53.807 the drug in the frontline setting

NOTE Confidence: 0.838966846466064

00:35:53.807 --> 00:35:56.566 and we said sure so here you can see

NOTE Confidence: 0.838966846466064

00:35:56.566 --> 00:35:58.710 this is the trout in Power 110 and

NOTE Confidence: 0.838966846466064

00:35:58.778 --> 00:36:00.948 this trial chemotherapy naive PDL,

NOTE Confidence: 0.838966846466064

00:36:00.950 --> 00:36:02.525 one selected patients with stage

NOTE Confidence: 0.838966846466064

00:36:02.525 --> 00:36:04.550 four non small cell lung cancer,

NOTE Confidence: 0.838966846466064

00:36:04.550 --> 00:36:05.854 either squamous or nonsquamous.

NOTE Confidence: 0.838966846466064

00:36:05.854 --> 00:36:07.158 So untreated patients 572.

NOTE Confidence: 0.838966846466064

00:36:07.160 --> 00:36:09.344 We used a little bit of a

NOTE Confidence: 0.838966846466064

00:36:09.344 --> 00:36:10.280 different asset here.

NOTE Confidence: 0.838966846466064

00:36:10.280 --> 00:36:12.152 Based on the work we had

NOTE Confidence: 0.838966846466064

00:36:12.152 --> 00:36:13.400 done in the biopsies,

NOTE Confidence: 0.838966846466064

00:36:13.400 --> 00:36:15.591 we thought it would be important to

NOTE Confidence: 0.838966846466064

00:36:15.591 --> 00:36:18.113 look at PDL one both in the tumor

NOTE Confidence: 0.838966846466064

00:36:18.113 --> 00:36:20.566 cells more than 50% and also PDL one

NOTE Confidence: 0.838966846466064

00:36:20.566 --> 00:36:22.760 in the immune cells more than 10%.

NOTE Confidence: 0.838966846466064

00:36:22.760 --> 00:36:25.248 So we call that TC three IC 3.

NOTE Confidence: 0.838966846466064

00:36:25.250 --> 00:36:27.128 So we use that in this.

NOTE Confidence: 0.838966846466064

00:36:27.130 --> 00:36:29.314 In this study we also use a

NOTE Confidence: 0.838966846466064

00:36:29.314 --> 00:36:30.250 slightly different antibody.

NOTE Confidence: 0.838966846466064

00:36:30.250 --> 00:36:32.427 I'll get to that in a moment,

NOTE Confidence: 0.838966846466064

00:36:32.430 --> 00:36:34.068 but it pretty simple design at

NOTE Confidence: 0.838966846466064

00:36:34.068 --> 00:36:35.920 TES Alisme am versus chemotherapy.

NOTE Confidence: 0.838966846466064

00:36:35.920 --> 00:36:39.016 Maintenance of Texel is a map

NOTE Confidence: 0.838966846466064

00:36:39.016 --> 00:36:40.564 versus maintenance chemotherapy

NOTE Confidence: 0.838966846466064

00:36:40.564 --> 00:36:42.260 endpoint being survival.

NOTE Confidence: 0.838966846466064

00:36:42.260 --> 00:36:44.318 Well, here is that result in.

NOTE Confidence: 0.838966846466064

00:36:44.320 --> 00:36:46.030 These data are now impressed,

NOTE Confidence: 0.838966846466064

00:36:46.030 --> 00:36:48.088 though not too long from now.

NOTE Confidence: 0.838966846466064

00:36:48.090 --> 00:36:49.810 You can see the curves.

NOTE Confidence: 0.838966846466064

00:36:49.810 --> 00:36:51.335 Cross definitely tells us we

NOTE Confidence: 0.838966846466064

00:36:51.335 --> 00:36:53.718 we still could do a little bit

NOTE Confidence: 0.838966846466064

00:36:53.718 --> 00:36:55.290 better with our biomarker,

NOTE Confidence: 0.838966846466064

00:36:55.290 --> 00:36:57.938 but here's the patients who had the high

NOTE Confidence: 0.838966846466064

00:36:57.938 --> 00:37:01.129 PD L1 and got the test losing Matt here.

NOTE Confidence: 0.838966846466064

00:37:01.130 --> 00:37:03.320 The patients who got the control

NOTE Confidence: 0.838966846466064

00:37:03.320 --> 00:37:05.791 chemotherapy has a ratio is 0.59 and

NOTE Confidence: 0.838966846466064

00:37:05.791 --> 00:37:07.989 these data will be followed out more.

NOTE Confidence: 0.838966846466064

00:37:07.990 --> 00:37:09.700 But again an incredible result.

NOTE Confidence: 0.838966846466064

00:37:09.700 --> 00:37:11.290 Single agent immunotherapy

NOTE Confidence: 0.838966846466064

00:37:11.290 --> 00:37:12.350 versus chemotherapy.

NOTE Confidence: 0.838966846466064

00:37:12.350 --> 00:37:14.219 We also then looked at this in

NOTE Confidence: 0.838966846466064

00:37:14.219 --> 00:37:15.890 this paper with other markers,

NOTE Confidence: 0.838966846466064

00:37:15.890 --> 00:37:17.006 so these are two.

NOTE Confidence: 0.838966846466064

00:37:17.006 --> 00:37:19.057 Here's the SP 142 which is the

NOTE Confidence: 0.838966846466064

00:37:19.057 --> 00:37:20.905 market we used for this study.

NOTE Confidence: 0.838966846466064

00:37:20.910 --> 00:37:23.270 It's the one that's used in breast cancer.

NOTE Confidence: 0.838966846466064

00:37:23.270 --> 00:37:25.040 Is the antibody against PDL one.

NOTE Confidence: 0.838966846466064

00:37:25.040 --> 00:37:27.210 And then here you can see there

NOTE Confidence: 0.838966846466064

00:37:27.210 --> 00:37:29.082 are more commonly used to see

NOTE Confidence: 0.838966846466064

00:37:29.082 --> 00:37:30.828 three 'cause I believe what we

NOTE Confidence: 0.838966846466064

00:37:30.828 --> 00:37:32.707 run at least used to run it.

NOTE Confidence: 0.838966846466064

00:37:32.710 --> 00:37:34.474 Yeah the results with the same

NOTE Confidence: 0.838966846466064

00:37:34.474 --> 00:37:35.356 slightly different populations.

NOTE Confidence: 0.838966846466064

00:37:35.360 --> 00:37:37.816 I won't get into this today but this

NOTE Confidence: 0.838966846466064

00:37:37.816 --> 00:37:40.177 trial allowed us to sort of develop

NOTE Confidence: 0.838966846466064

00:37:40.177 --> 00:37:41.862 some of the biomarker comparisons

NOTE Confidence: 0.838966846466064

00:37:41.931 --> 00:37:44.079 which beforehand had not been done.

NOTE Confidence: 0.838966846466064

00:37:44.080 --> 00:37:45.352 But even more interesting,

NOTE Confidence: 0.838966846466064

00:37:45.352 --> 00:37:48.171 I wanted to show this just one slide and

NOTE Confidence: 0.838966846466064

00:37:48.171 --> 00:37:50.510 again the full report will be out soon.

NOTE Confidence: 0.838966846466064

00:37:50.510 --> 00:37:52.340 This was already presented at Esmo,

NOTE Confidence: 0.838966846466064

00:37:52.340 --> 00:37:54.356 but what you can see is we looked

NOTE Confidence: 0.838966846466064

00:37:54.356 --> 00:37:56.009 at tumor mutational burden,

NOTE Confidence: 0.838966846466064

00:37:56.010 --> 00:37:57.786 the number of vacations for megabase

NOTE Confidence: 0.838966846466064

00:37:57.786 --> 00:38:00.746 of DNA and we did it in the blood

NOTE Confidence: 0.838966846466064

00:38:00.746 --> 00:38:02.461 using the foundation medicine platform

NOTE Confidence: 0.838966846466064

00:38:02.525 --> 00:38:04.387 and what you can see is here's

NOTE Confidence: 0.838966846466064

00:38:04.387 --> 00:38:06.021 another one of those forest plots.

NOTE Confidence: 0.838966846466064

00:38:06.021 --> 00:38:07.960 Here's all patients with any PDL one

NOTE Confidence: 0.821562826633453

00:38:08.015 --> 00:38:09.910 expression, but you can see that

NOTE Confidence: 0.821562826633453

00:38:09.910 --> 00:38:12.032 when you took patients with a blood

NOTE Confidence: 0.821562826633453

00:38:12.032 --> 00:38:13.456 based tumor mutational burden,

NOTE Confidence: 0.821562826633453

00:38:13.460 --> 00:38:14.924 you see a progressive.

NOTE Confidence: 0.821562826633453

00:38:14.924 --> 00:38:17.837 Increase in referee survival as you go up

NOTE Confidence: 0.821562826633453

00:38:17.837 --> 00:38:20.098 in the number of mutations per megabase.

NOTE Confidence: 0.821562826633453

00:38:20.100 --> 00:38:21.552 Why is this important?

NOTE Confidence: 0.821562826633453

00:38:21.552 --> 00:38:24.431 Predict that someday will use this as a

NOTE Confidence: 0.821562826633453

00:38:24.431 --> 00:38:26.746 biomarker, perhaps in Association with

NOTE Confidence: 0.821562826633453

00:38:26.746 --> 00:38:29.740 other biomarkers in in this setting.

NOTE Confidence: 0.821562826633453

00:38:29.740 --> 00:38:31.245 Well, what about biomarkers developed

NOTE Confidence: 0.821562826633453

00:38:31.245 --> 00:38:33.330 at Yale and mechanisms of resistance?

NOTE Confidence: 0.821562826633453

00:38:33.330 --> 00:38:35.280 Again, I'm giving an overview today,

NOTE Confidence: 0.821562826633453

00:38:35.280 --> 00:38:36.240 but you know,

NOTE Confidence: 0.821562826633453

00:38:36.240 --> 00:38:38.870 so fortunate to have such an amazing team.

NOTE Confidence: 0.821562826633453

00:38:38.870 --> 00:38:40.500 These are two papers with

NOTE Confidence: 0.821562826633453

00:38:40.500 --> 00:38:41.478 Scott's first author,

NOTE Confidence: 0.821562826633453

00:38:41.480 --> 00:38:43.154 but when was led through Katie's

NOTE Confidence: 0.821562826633453

00:38:43.154 --> 00:38:45.486 lab and was led through Kurt slab

NOTE Confidence: 0.821562826633453

00:38:45.486 --> 00:38:47.018 just really seminal results.

NOTE Confidence: 0.821562826633453

00:38:47.020 --> 00:38:49.628 So and I have to credit Rick Lifton.

NOTE Confidence: 0.821562826633453

00:38:49.630 --> 00:38:52.474 We used to meet with Rick and work with

NOTE Confidence: 0.821562826633453

00:38:52.474 --> 00:38:55.021 let Rick we used to go meet weekly

NOTE Confidence: 0.821562826633453

00:38:55.021 --> 00:38:58.055 over at his lab so we had a great

NOTE Confidence: 0.821562826633453

00:38:58.055 --> 00:39:00.062 team working together so we actually

NOTE Confidence: 0.821562826633453

00:39:00.062 --> 00:39:01.366 sequenced patients at resistance.

NOTE Confidence: 0.821562826633453

00:39:01.370 --> 00:39:02.840 I've actually learned a whole

NOTE Confidence: 0.821562826633453

00:39:02.840 --> 00:39:04.310 found that those tumors that

NOTE Confidence: 0.821562826633453

00:39:04.360 --> 00:39:05.830 were resistant had lost beta,

NOTE Confidence: 0.821562826633453

00:39:05.830 --> 00:39:07.018 two microglobulin and a

NOTE Confidence: 0.821562826633453

00:39:07.018 --> 00:39:08.800 sexual component of M HC One.

NOTE Confidence: 0.821562826633453

00:39:08.800 --> 00:39:11.296 So if you know that these are these

NOTE Confidence: 0.821562826633453

00:39:11.296 --> 00:39:13.547 patients can't get anymore PD one PD L1,

NOTE Confidence: 0.821562826633453

00:39:13.550 --> 00:39:15.410 they need other ways of

NOTE Confidence: 0.821562826633453

00:39:15.410 --> 00:39:16.898 activating the immune system.

NOTE Confidence: 0.821562826633453

00:39:16.900 --> 00:39:17.839 And then Kurt.

NOTE Confidence: 0.821562826633453

00:39:17.839 --> 00:39:19.717 This is a work in progress,

NOTE Confidence: 0.821562826633453

00:39:19.720 --> 00:39:21.156 using quantitative immune fluorescence.

NOTE Confidence: 0.821562826633453

00:39:21.156 --> 00:39:23.619 Had a wonderful study with Scott and

NOTE Confidence: 0.821562826633453

00:39:23.619 --> 00:39:25.659 cancer discovery and the rest of the team,

NOTE Confidence: 0.821562826633453

00:39:25.660 --> 00:39:27.225 but they look at different

NOTE Confidence: 0.821562826633453

00:39:27.225 --> 00:39:28.164 combinations of Biomarkers.

NOTE Confidence: 0.821562826633453

00:39:28.170 --> 00:39:30.354 Group AB&C. So what this group is?

NOTE Confidence: 0.821562826633453

00:39:30.360 --> 00:39:31.850 These are patients that have

NOTE Confidence: 0.821562826633453

00:39:31.850 --> 00:39:33.800 low tell cells and very little.

NOTE Confidence: 0.821562826633453

00:39:33.800 --> 00:39:35.576 These are patients that have low

NOTE Confidence: 0.821562826633453

00:39:35.576 --> 00:39:37.559 til cells and these are patients.

NOTE Confidence: 0.821562826633453

00:39:37.560 --> 00:39:40.690 These two groups that have a lot of T cells.

NOTE Confidence: 0.821562826633453

00:39:40.690 --> 00:39:42.496 But then he looked at the

NOTE Confidence: 0.821562826633453

00:39:42.496 --> 00:39:44.130 characteristics of the T cells.

NOTE Confidence: 0.821562826633453

00:39:44.130 --> 00:39:46.044 These T cells had low ground

NOTE Confidence: 0.821562826633453

00:39:46.044 --> 00:39:47.580 Simon and located at 67.

NOTE Confidence: 0.821562826633453

00:39:47.580 --> 00:39:50.030 So we're sort of exhausted and these

NOTE Confidence: 0.821562826633453

00:39:50.030 --> 00:39:52.298 details you can see by the white.

NOTE Confidence: 0.821562826633453

00:39:52.300 --> 00:39:54.505 They had high K 67 and high

NOTE Confidence: 0.821562826633453

00:39:54.505 --> 00:39:56.340 granzyme and lo and behold,

NOTE Confidence: 0.821562826633453

00:39:56.340 --> 00:39:58.734 he showed that that group that had

NOTE Confidence: 0.821562826633453

00:39:58.734 --> 00:40:01.397 the low chaos 67 and a low granzyme.

NOTE Confidence: 0.821562826633453

00:40:01.400 --> 00:40:03.416 They did the best small numbers,

NOTE Confidence: 0.821562826633453

00:40:03.420 --> 00:40:06.036 but we're now using our stand up for

NOTE Confidence: 0.821562826633453

00:40:06.036 --> 00:40:08.139 cancer alliance to validate this more,

NOTE Confidence: 0.821562826633453

00:40:08.140 --> 00:40:09.932 but it shows that you can identify

NOTE Confidence: 0.821562826633453

00:40:09.932 --> 00:40:11.891 a group of patients who probably

NOTE Confidence: 0.821562826633453

00:40:11.891 --> 00:40:13.771 had more ability to respond

NOTE Confidence: 0.821562826633453

00:40:13.771 --> 00:40:15.210 to immunotherapy biomarkers.

NOTE Confidence: 0.821562826633453

00:40:15.210 --> 00:40:16.264 Predictive biomarkers.

NOTE Confidence: 0.821562826633453

00:40:16.264 --> 00:40:18.899 Very exciting, this work continues.

NOTE Confidence: 0.821562826633453

00:40:18.900 --> 00:40:20.958 I just point that out now,

NOTE Confidence: 0.821562826633453

00:40:20.960 --> 00:40:21.992 what about resistance?

NOTE Confidence: 0.821562826633453

00:40:21.992 --> 00:40:24.400 So we have to understand resistance better.

NOTE Confidence: 0.821562826633453

00:40:24.400 --> 00:40:26.464 This is work from David Rim

NOTE Confidence: 0.821562826633453

00:40:26.464 --> 00:40:27.840 leaping bans eval Chevy.

NOTE Confidence: 0.821562826633453

00:40:27.840 --> 00:40:29.180 One of our fellows.

NOTE Confidence: 0.821562826633453

00:40:29.180 --> 00:40:32.210 He now leads among group at NYU and what

NOTE Confidence: 0.821562826633453

00:40:32.210 --> 00:40:34.855 you can see is we actually took 450

NOTE Confidence: 0.821562826633453

00:40:34.855 --> 00:40:37.473 samples from our archive here at Yale.

NOTE Confidence: 0.821562826633453

00:40:37.480 --> 00:40:40.192 When I told you pathology is key and

NOTE Confidence: 0.821562826633453

00:40:40.192 --> 00:40:42.538 we actually found that only 17% of

NOTE Confidence: 0.821562826633453

00:40:42.538 --> 00:40:44.522 the tumors at high PD L1 and hide

NOTE Confidence: 0.821562826633453

00:40:44.522 --> 00:40:46.758 til tumor infiltrating lymphocytes,

NOTE Confidence: 0.821562826633453

00:40:46.760 --> 00:40:49.238 the same 1720%. I've been telling you.

NOTE Confidence: 0.821562826633453

00:40:49.240 --> 00:40:50.128 Do real well,

NOTE Confidence: 0.821562826633453

00:40:50.128 --> 00:40:52.108 but here's 26% of the tumors that

NOTE Confidence: 0.821562826633453

00:40:52.108 --> 00:40:54.379 have a lot of PDL one have sorry

NOTE Confidence: 0.821562826633453

00:40:54.379 --> 00:40:56.659 they have a lot of chill but no

NOTE Confidence: 0.808094799518585

00:40:56.733 --> 00:40:58.647 PDL one so it doesn't matter

NOTE Confidence: 0.808094799518585

00:40:58.647 --> 00:41:00.821 how much you block PDL 1 here,

NOTE Confidence: 0.808094799518585

00:41:00.821 --> 00:41:02.306 it's not going to matter,

NOTE Confidence: 0.808094799518585

00:41:02.310 --> 00:41:03.935 but perhaps there are other

NOTE Confidence: 0.808094799518585

00:41:03.935 --> 00:41:05.560 checkpoints in play and then

NOTE Confidence: 0.808094799518585

00:41:05.619 --> 00:41:07.355 you can see type one and four.

NOTE Confidence: 0.808094799518585

00:41:07.360 --> 00:41:08.770 These are tumors where there

NOTE Confidence: 0.808094799518585

00:41:08.770 --> 00:41:10.620 are no tells their cold tumors,

NOTE Confidence: 0.808094799518585

00:41:10.620 --> 00:41:12.066 so it doesn't matter how much

NOTE Confidence: 0.808094799518585

00:41:12.066 --> 00:41:13.510 you play around with these

NOTE Confidence: 0.808094799518585

00:41:13.510 --> 00:41:14.779 immune checkpoint inhibitors,

NOTE Confidence: 0.808094799518585

00:41:14.780 --> 00:41:17.750 we have to inflamed them first so we call 1,

NOTE Confidence: 0.808094799518585

00:41:17.750 --> 00:41:19.260 three and four off target.

NOTE Confidence: 0.808094799518585

00:41:19.260 --> 00:41:20.540 Target missing resistance and type

NOTE Confidence: 0.808094799518585

00:41:20.540 --> 00:41:22.380 one is the on target resistance.

NOTE Confidence: 0.808094799518585

00:41:22.380 --> 00:41:24.090 Let me talk about that first.

NOTE Confidence: 0.808094799518585

00:41:24.090 --> 00:41:25.505 Even when you give immunotherapy

NOTE Confidence: 0.808094799518585

00:41:25.505 --> 00:41:26.354 to these patients,

NOTE Confidence: 0.808094799518585

00:41:26.360 --> 00:41:28.656 they still only respond 3040% of the time,

NOTE Confidence: 0.808094799518585

00:41:28.656 --> 00:41:30.116 so something else is going

NOTE Confidence: 0.808094799518585

00:41:30.116 --> 00:41:32.198 on in the macro environment.

NOTE Confidence: 0.808094799518585

00:41:32.200 --> 00:41:33.151 Well known, behold,

NOTE Confidence: 0.808094799518585

00:41:33.151 --> 00:41:34.736 we have David Rahman team

NOTE Confidence: 0.808094799518585

00:41:34.736 --> 00:41:36.061 quantitative mean for essence

NOTE Confidence: 0.808094799518585

00:41:36.061 --> 00:41:37.646 lovely paper recently looking at

NOTE Confidence: 0.808094799518585

00:41:37.646 --> 00:41:39.260 Co localization in macrophages.

NOTE Confidence: 0.808094799518585

00:41:39.260 --> 00:41:41.618 The macrophages are going to be

NOTE Confidence: 0.808094799518585

00:41:41.618 --> 00:41:43.190 important to micro environment

NOTE Confidence: 0.808094799518585

00:41:43.254 --> 00:41:45.029 and outcome looking at markers

NOTE Confidence: 0.808094799518585

00:41:45.029 --> 00:41:47.115 of PDL one and macrophage this

NOTE Confidence: 0.808094799518585

00:41:47.115 --> 00:41:49.091 is what we need to do more of

NOTE Confidence: 0.808094799518585

00:41:49.091 --> 00:41:51.030 like not just these two markers

NOTE Confidence: 0.808094799518585

00:41:51.030 --> 00:41:53.243 that markers in other cell types

NOTE Confidence: 0.808094799518585

00:41:53.243 --> 00:41:55.079 in the tumor microenvironment.

NOTE Confidence: 0.808094799518585

00:41:55.080 --> 00:41:57.816 And we had some extra money on the store.

NOTE Confidence: 0.808094799518585

00:41:57.820 --> 00:41:59.638 We still need more money Charlie,

NOTE Confidence: 0.808094799518585

00:41:59.640 --> 00:42:01.691 but we just had a little bit

NOTE Confidence: 0.808094799518585

00:42:01.691 --> 00:42:03.290 of extra surplus last year.

NOTE Confidence: 0.808094799518585

00:42:03.290 --> 00:42:05.200 So what we did is we we put it into

NOTE Confidence: 0.808094799518585

00:42:05.260 --> 00:42:07.654 tissue microarray with some of the

NOTE Confidence: 0.808094799518585

00:42:07.654 --> 00:42:09.250 responders nonresponders very valuable

NOTE Confidence: 0.808094799518585

00:42:09.311 --> 00:42:11.495 so we can test different biomarkers now.

NOTE Confidence: 0.808094799518585

00:42:11.500 --> 00:42:13.579 And I think they've been in his

NOTE Confidence: 0.808094799518585

00:42:13.579 --> 00:42:15.799 group for their complete innovation.

NOTE Confidence: 0.808094799518585

00:42:15.800 --> 00:42:17.606 And you can see the rim lab,

NOTE Confidence: 0.808094799518585

00:42:17.610 --> 00:42:18.900 just just a wonderful lab.

NOTE Confidence: 0.808094799518585

00:42:18.900 --> 00:42:20.466 The only problem is David is

NOTE Confidence: 0.808094799518585

00:42:20.466 --> 00:42:22.508 so good he is now part of it.

NOTE Confidence: 0.808094799518585

00:42:22.510 --> 00:42:24.274 Had an export of course he's leading

NOTE Confidence: 0.808094799518585

00:42:24.274 --> 00:42:25.599 breast cancer for many years.

NOTE Confidence: 0.808094799518585

00:42:25.600 --> 00:42:27.357 We need many more groups like this

NOTE Confidence: 0.808094799518585

00:42:27.357 --> 00:42:29.219 at the Cancer Center and an ocean.

NOTE Confidence: 0.808094799518585

00:42:29.220 --> 00:42:30.756 Lou is very supportive of that.

NOTE Confidence: 0.808094799518585

00:42:30.760 --> 00:42:32.566 This pathology group is just good key.

NOTE Confidence: 0.808094799518585

00:42:32.570 --> 00:42:34.118 But what about the Type 1,

NOTE Confidence: 0.808094799518585

00:42:34.120 --> 00:42:35.152 three and four tumors?

NOTE Confidence: 0.808094799518585

00:42:35.152 --> 00:42:35.410 Well,

NOTE Confidence: 0.808094799518585

00:42:35.410 --> 00:42:36.994 about three years ago we were

NOTE Confidence: 0.808094799518585

00:42:36.994 --> 00:42:38.349 thinking about the new spore

NOTE Confidence: 0.808094799518585

00:42:38.349 --> 00:42:39.789 and what we're going to do,

NOTE Confidence: 0.808094799518585

00:42:39.790 --> 00:42:42.112 and I was meeting with limping and he said,

NOTE Confidence: 0.808094799518585

00:42:42.120 --> 00:42:42.431 well,

NOTE Confidence: 0.808094799518585

00:42:42.431 --> 00:42:44.297 you have a sabbatical coming up

NOTE Confidence: 0.808094799518585

00:42:44.297 --> 00:42:46.270 when you come work in the lab.

NOTE Confidence: 0.808094799518585

00:42:46.270 --> 00:42:47.194 And I said, sure,

NOTE Confidence: 0.808094799518585

00:42:47.194 --> 00:42:48.947 the only problem is I still had

NOTE Confidence: 0.808094799518585

00:42:48.947 --> 00:42:50.527 all my other administrative work,

NOTE Confidence: 0.808094799518585

00:42:50.530 --> 00:42:52.555 but I got an office over there and and

NOTE Confidence: 0.808094799518585

00:42:52.555 --> 00:42:54.665 we work very closely together and I

NOTE Confidence: 0.808094799518585

00:42:54.665 --> 00:42:56.910 learned to laugh, even put me to work.

NOTE Confidence: 0.808094799518585

00:42:56.910 --> 00:42:58.270 They they got me working

NOTE Confidence: 0.808094799518585

00:42:58.270 --> 00:43:00.368 in the lab and I I'm a PhD.

NOTE Confidence: 0.808094799518585

00:43:00.370 --> 00:43:01.960 I did this 20 years ago,

NOTE Confidence: 0.808094799518585

00:43:01.960 --> 00:43:03.290 so it's actually really good

NOTE Confidence: 0.808094799518585

00:43:03.290 --> 00:43:04.620 to get in the lab,

NOTE Confidence: 0.808094799518585

00:43:04.620 --> 00:43:05.730 but it's about the people

NOTE Confidence: 0.808094799518585

00:43:05.730 --> 00:43:07.232 talking to people at coffee and

NOTE Confidence: 0.808094799518585

00:43:07.232 --> 00:43:08.608 understanding the different projects.

NOTE Confidence: 0.808094799518585

00:43:08.610 --> 00:43:10.206 I also went back to school.

NOTE Confidence: 0.808094799518585

00:43:10.210 --> 00:43:11.743 It went back up to Science Hill

NOTE Confidence: 0.808094799518585

00:43:11.743 --> 00:43:13.399 and I took immunology course.

NOTE Confidence: 0.808094799518585

00:43:13.400 --> 00:43:14.730 There's Peter Cresswell, you know,

NOTE Confidence: 0.808094799518585

00:43:14.730 --> 00:43:16.954 when I I, I learned and through that.

NOTE Confidence: 0.808094799518585

00:43:16.960 --> 00:43:18.346 I learned what was going on in

NOTE Confidence: 0.808094799518585

00:43:18.346 --> 00:43:20.132 the lab even better, and I said,

NOTE Confidence: 0.808094799518585

00:43:20.132 --> 00:43:20.406 Hey,

NOTE Confidence: 0.808094799518585

00:43:20.406 --> 00:43:22.050 here's a project we should take

NOTE Confidence: 0.881646275520325

00:43:22.110 --> 00:43:24.938 to the clinic. So that's project 1,

NOTE Confidence: 0.881646275520325

00:43:24.938 --> 00:43:27.980 the new project one cyclic 15.

NOTE Confidence: 0.881646275520325

00:43:27.980 --> 00:43:31.529 So this is a sciatica acid bound,

NOTE Confidence: 0.881646275520325

00:43:31.530 --> 00:43:33.482 electing its a receptor.

NOTE Confidence: 0.881646275520325

00:43:33.482 --> 00:43:37.110 It's known to be on macrophages Annand.

NOTE Confidence: 0.881646275520325

00:43:37.110 --> 00:43:39.312 Micelles this came through a large

NOTE Confidence: 0.881646275520325

00:43:39.312 --> 00:43:41.175 screen that leaping had developed

NOTE Confidence: 0.881646275520325

00:43:41.175 --> 00:43:43.443 in the lab to find new targets.

NOTE Confidence: 0.881646275520325

00:43:43.450 --> 00:43:45.405 Looking at other membrane jeans

NOTE Confidence: 0.881646275520325

00:43:45.405 --> 00:43:48.347 home Alexa PDL one so we were going

NOTE Confidence: 0.881646275520325

00:43:48.347 --> 00:43:50.840 to not work on the next PDL one.

NOTE Confidence: 0.881646275520325

00:43:50.840 --> 00:43:53.080 So here sleeping myself Scotsman

NOTE Confidence: 0.881646275520325

00:43:53.080 --> 00:43:55.320 critical to this and David.

NOTE Confidence: 0.881646275520325

00:43:55.320 --> 00:43:57.402 So this is an antibody against

NOTE Confidence: 0.881646275520325

00:43:57.402 --> 00:43:58.443 us now accompany.

NOTE Confidence: 0.881646275520325

00:43:58.450 --> 00:44:00.809 Next you're being involved and this trial

NOTE Confidence: 0.881646275520325

00:44:00.809 --> 00:44:03.914 is led by Pat Larusso and here you can

NOTE Confidence: 0.881646275520325

00:44:03.914 --> 00:44:06.460 see these are patients with lung cancer.

NOTE Confidence: 0.881646275520325

00:44:06.460 --> 00:44:08.616 On that phase one trial and there

NOTE Confidence: 0.881646275520325

00:44:08.616 --> 00:44:10.978 have been a couple of responses.

NOTE Confidence: 0.881646275520325

00:44:10.980 --> 00:44:12.228 There's a CR here.

NOTE Confidence: 0.881646275520325

00:44:12.228 --> 00:44:15.159 There was a PR and there were a number

NOTE Confidence: 0.881646275520325

00:44:15.159 --> 00:44:18.320 of patients is the CR is appear at a

NOTE Confidence: 0.881646275520325

00:44:18.320 --> 00:44:20.714 number of patients with stable disease.

NOTE Confidence: 0.881646275520325

00:44:20.720 --> 00:44:22.460 So signs of early activity.

NOTE Confidence: 0.881646275520325

00:44:22.460 --> 00:44:23.312 That's good.

NOTE Confidence: 0.881646275520325

00:44:23.312 --> 00:44:25.868 Here is the responder I mentioned,

NOTE Confidence: 0.881646275520325

00:44:25.870 --> 00:44:27.390 so this drive already in

NOTE Confidence: 0.881646275520325

00:44:27.390 --> 00:44:29.180 phase one and we said OK,

NOTE Confidence: 0.881646275520325

00:44:29.180 --> 00:44:31.315 maybe we can learn more about the

NOTE Confidence: 0.881646275520325

00:44:31.315 --> 00:44:33.515 mechanism in the lab and more about

NOTE Confidence: 0.881646275520325

00:44:33.515 --> 00:44:35.345 the mechanism in the clinic and

NOTE Confidence: 0.881646275520325

00:44:35.411 --> 00:44:37.603 make this a trial in our long spore.

NOTE Confidence: 0.881646275520325

00:44:37.610 --> 00:44:39.834 So it is project one and we have

NOTE Confidence: 0.881646275520325

00:44:39.834 --> 00:44:41.421 other candidates of course that

NOTE Confidence: 0.881646275520325

00:44:41.421 --> 00:44:42.717 we're developing as well.

NOTE Confidence: 0.881646275520325

00:44:42.720 --> 00:44:44.704 But this is this is a project now

NOTE Confidence: 0.881646275520325

00:44:44.704 --> 00:44:46.674 and again path being very closely

NOTE Confidence: 0.881646275520325

00:44:46.674 --> 00:44:48.439 involved the phase one results.

NOTE Confidence: 0.881646275520325

00:44:48.440 --> 00:44:49.086 They're OK,

NOTE Confidence: 0.881646275520325

00:44:49.086 --> 00:44:51.347 but I think they benefit from some

NOTE Confidence: 0.881646275520325

00:44:51.347 --> 00:44:53.568 more science and from a biomarker.

NOTE Confidence: 0.881646275520325

00:44:53.570 --> 00:44:55.560 So one of the things I was able to do

NOTE Confidence: 0.881646275520325

00:44:55.616 --> 00:44:57.552 having been working in the lab is I

NOTE Confidence: 0.881646275520325

00:44:57.552 --> 00:44:59.316 put David rim together with sleeping

NOTE Confidence: 0.881646275520325

00:44:59.316 --> 00:45:01.916 in the company and it's taking a few years.

NOTE Confidence: 0.881646275520325

00:45:01.916 --> 00:45:03.176 This is not simple stuff.

NOTE Confidence: 0.881646275520325

00:45:03.180 --> 00:45:04.196 You don't just developing

NOTE Confidence: 0.881646275520325

00:45:04.196 --> 00:45:04.958 Immuno Chemistry Assay.

NOTE Confidence: 0.881646275520325

00:45:04.960 --> 00:45:05.992 You've gotta validate it.

NOTE Confidence: 0.881646275520325

00:45:05.992 --> 00:45:07.282 You've got to know the

NOTE Confidence: 0.881646275520325

00:45:07.282 --> 00:45:08.238 prevalence of that marker.

NOTE Confidence: 0.881646275520325

00:45:08.240 --> 00:45:09.770 Might not be so high you

NOTE Confidence: 0.881646275520325

00:45:09.770 --> 00:45:11.030 have to enhance for it.

NOTE Confidence: 0.881646275520325

00:45:11.030 --> 00:45:12.870 So David now I believe has an assay

NOTE Confidence: 0.881646275520325

00:45:12.870 --> 00:45:14.809 to measure S 15615 and actually it's

NOTE Confidence: 0.881646275520325

00:45:14.809 --> 00:45:16.589 very interesting as he's looked at it.

NOTE Confidence: 0.881646275520325

00:45:16.590 --> 00:45:18.431 He found that when you look at

NOTE Confidence: 0.881646275520325

00:45:18.431 --> 00:45:20.133 patients that are high in PD, L1,

NOTE Confidence: 0.881646275520325

00:45:20.133 --> 00:45:22.157 the tumors tend to be low in S15.

NOTE Confidence: 0.881646275520325

00:45:22.160 --> 00:45:23.808 So it looks like there might be some

NOTE Confidence: 0.881646275520325

00:45:23.808 --> 00:45:25.448 sort of mutual exclusivity there.

NOTE Confidence: 0.881646275520325

00:45:25.450 --> 00:45:26.775 Which could be very important

NOTE Confidence: 0.881646275520325

00:45:26.775 --> 00:45:28.480 as we decide who to treat,

NOTE Confidence: 0.881646275520325

00:45:28.480 --> 00:45:30.412 so this works on going and the

NOTE Confidence: 0.881646275520325

00:45:30.412 --> 00:45:32.327 new trial we're going to do that.

NOTE Confidence: 0.881646275520325

00:45:32.330 --> 00:45:32.680 Yeah,

NOTE Confidence: 0.881646275520325

00:45:32.680 --> 00:45:34.780 the plan is very soon to

NOTE Confidence: 0.881646275520325

00:45:34.780 --> 00:45:35.830 include biomarker selection.

NOTE Confidence: 0.881646275520325

00:45:35.830 --> 00:45:37.810 And then here's the Travis Scott

NOTE Confidence: 0.881646275520325

00:45:37.810 --> 00:45:39.609 Gettinger is running as an IIT.

NOTE Confidence: 0.881646275520325

00:45:39.610 --> 00:45:41.605 We reached out to next cure but

NOTE Confidence: 0.881646275520325

00:45:41.605 --> 00:45:43.572 also through our great deal of

NOTE Confidence: 0.881646275520325

00:45:43.572 --> 00:45:44.964 work with mercantilism app.

NOTE Confidence: 0.881646275520325

00:45:44.970 --> 00:45:46.226 They've provided us Pember

NOTE Confidence: 0.881646275520325

00:45:46.226 --> 00:45:47.796 Lizum app for this trial.

NOTE Confidence: 0.881646275520325

00:45:47.800 --> 00:45:49.676 So now we're going to take patients

NOTE Confidence: 0.881646275520325

00:45:49.676 --> 00:45:51.270 who have failed immunotherapy.

NOTE Confidence: 0.881646275520325

00:45:51.270 --> 00:45:52.840 And I'm hearing clinic today.

NOTE Confidence: 0.881646275520325

00:45:52.840 --> 00:45:54.100 I almost every patient.

NOTE Confidence: 0.881646275520325

00:45:54.100 --> 00:45:55.675 I see there having issues.

NOTE Confidence: 0.881646275520325

00:45:55.680 --> 00:45:56.268 You know,

NOTE Confidence: 0.881646275520325

00:45:56.268 --> 00:45:57.738 they they need what's next

NOTE Confidence: 0.881646275520325

00:45:57.738 --> 00:45:59.140 after being in therapy.

NOTE Confidence: 0.881646275520325

00:45:59.140 --> 00:46:02.160 So for that we now need to get new biopsies

NOTE Confidence: 0.759384393692017

00:46:02.240 --> 00:46:04.655 and we're going to have either NC

NOTE Confidence: 0.759384393692017

00:46:04.655 --> 00:46:07.027 318 that signal 15 or NC 318 plus.

NOTE Confidence: 0.759384393692017

00:46:07.030 --> 00:46:09.431 Embolism app, so we're now going to

NOTE Confidence: 0.759384393692017

00:46:09.431 --> 00:46:11.150 take refractory patients and either

NOTE Confidence: 0.759384393692017

00:46:11.150 --> 00:46:13.034 give them the single agent alone,

NOTE Confidence: 0.759384393692017

00:46:13.040 --> 00:46:14.224 hopefully someday with biomarker

NOTE Confidence: 0.759384393692017

00:46:14.224 --> 00:46:15.704 selection or a combination with

NOTE Confidence: 0.759384393692017

00:46:15.704 --> 00:46:17.049 the standard immunotherapy.

NOTE Confidence: 0.759384393692017

00:46:17.050 --> 00:46:19.054 We're also going to few patients

NOTE Confidence: 0.759384393692017

00:46:19.054 --> 00:46:20.390 in the frontline setting,

NOTE Confidence: 0.759384393692017

00:46:20.390 --> 00:46:22.388 so we're very excited about this.

NOTE Confidence: 0.759384393692017

00:46:22.390 --> 00:46:24.728 This should hopefully be open very soon.

NOTE Confidence: 0.759384393692017

00:46:24.730 --> 00:46:28.322 So again, science from Yale moving to the

NOTE Confidence: 0.759384393692017

00:46:28.322 --> 00:46:31.858 clinic with science going back to the lab.

NOTE Confidence: 0.759384393692017

00:46:31.860 --> 00:46:33.192 And of course, again,

NOTE Confidence: 0.759384393692017

00:46:33.192 --> 00:46:34.524 I can't emphasize enough.

NOTE Confidence: 0.759384393692017

00:46:34.530 --> 00:46:36.540 Today. It's all about the team.

NOTE Confidence: 0.759384393692017

00:46:36.540 --> 00:46:38.538 So Katie Kirk came to visit,

NOTE Confidence: 0.759384393692017

00:46:38.540 --> 00:46:41.204 so that was easy to form an idea.

NOTE Confidence: 0.759384393692017

00:46:41.210 --> 00:46:44.216 So people who wanted to be in the picture,

NOTE Confidence: 0.759384393692017

00:46:44.220 --> 00:46:45.552 you know there sleeping.

NOTE Confidence: 0.759384393692017

00:46:45.552 --> 00:46:46.218 There's pad.

NOTE Confidence: 0.759384393692017

00:46:46.220 --> 00:46:48.884 Pleinair Charlie, I got myself a good spot.

NOTE Confidence: 0.759384393692017

00:46:48.890 --> 00:46:51.228 You can see we have a team.

NOTE Confidence: 0.759384393692017

00:46:51.230 --> 00:46:52.414 It's all these people.

NOTE Confidence: 0.759384393692017

00:46:52.414 --> 00:46:54.570 The other ones were doing the work

NOTE Confidence: 0.759384393692017

00:46:54.570 --> 00:46:56.140 that we're seeing the patience

NOTE Confidence: 0.759384393692017

00:46:56.140 --> 00:46:57.910 Jochim This is just amazing.

NOTE Confidence: 0.759384393692017

00:46:57.910 --> 00:46:59.398 The team we have probably have.

NOTE Confidence: 0.759384393692017

00:46:59.400 --> 00:47:01.591 I know we have the best phase

NOTE Confidence: 0.759384393692017

00:47:01.591 --> 00:47:03.579 when you did in the world.

NOTE Confidence: 0.759384393692017

00:47:03.580 --> 00:47:04.516 So I've talked.

NOTE Confidence: 0.759384393692017

00:47:04.516 --> 00:47:06.388 I've gone through a couple of

NOTE Confidence: 0.759384393692017

00:47:06.388 --> 00:47:08.087 little vignettes you can see.

NOTE Confidence: 0.759384393692017

00:47:08.090 --> 00:47:09.378 I'm excited, I'm enthusiastic.

NOTE Confidence: 0.759384393692017

00:47:09.378 --> 00:47:11.310 I think we've made a difference.

NOTE Confidence: 0.759384393692017

00:47:11.310 --> 00:47:12.630 I've seen it myself.

NOTE Confidence: 0.759384393692017

00:47:12.630 --> 00:47:14.610 There's nothing like seeing a patient

NOTE Confidence: 0.759384393692017

00:47:14.668 --> 00:47:16.817 who's alive 10 years later that you've

NOTE Confidence: 0.759384393692017

00:47:16.817 --> 00:47:18.708 treated it with your own clinic.

NOTE Confidence: 0.759384393692017

00:47:18.710 --> 00:47:21.198 What is the future?

NOTE Confidence: 0.759384393692017

00:47:21.200 --> 00:47:23.496 But it's very hard to predict the future.

NOTE Confidence: 0.759384393692017

00:47:23.500 --> 00:47:25.216 But can we cure metastatic lung

NOTE Confidence: 0.759384393692017

00:47:25.216 --> 00:47:26.074 cancer with immunotherapy?

NOTE Confidence: 0.759384393692017

00:47:26.080 --> 00:47:28.616 And I've been asking this question to a

NOTE Confidence: 0.759384393692017

00:47:28.616 --> 00:47:31.527 lot of people and I'm going to say yes.

NOTE Confidence: 0.759384393692017

00:47:31.530 --> 00:47:32.550 But in some cases,

NOTE Confidence: 0.759384393692017

00:47:32.550 --> 00:47:34.520 or at least patients can remain alive

NOTE Confidence: 0.759384393692017

00:47:34.520 --> 00:47:36.519 with controlled disease, we've seen it.

NOTE Confidence: 0.759384393692017

00:47:36.519 --> 00:47:38.217 I started to Scott earlier today

NOTE Confidence: 0.759384393692017

00:47:38.217 --> 00:47:40.295 in the clinic we have 10 years

NOTE Confidence: 0.759384393692017

00:47:40.295 --> 00:47:42.190 survivors from the very first trial.

NOTE Confidence: 0.759384393692017

00:47:42.190 --> 00:47:43.318 Maybe 1020 of them.

NOTE Confidence: 0.759384393692017

00:47:43.318 --> 00:47:45.440 Know we have people who are alive.

NOTE Confidence: 0.759384393692017

00:47:45.440 --> 00:47:46.476 Maybe that 10 years,

NOTE Confidence: 0.759384393692017

00:47:46.476 --> 00:47:48.702 but ten years up to 10 years at

NOTE Confidence: 0.759384393692017

00:47:48.702 --> 00:47:50.816 7 six years we used to celebrate

NOTE Confidence: 0.759384393692017

00:47:50.816 --> 00:47:52.749 survival at MD Anderson in stage

NOTE Confidence: 0.759384393692017

00:47:52.749 --> 00:47:54.319 three disease at five years.

NOTE Confidence: 0.759384393692017

00:47:54.320 --> 00:47:56.224 So it might be time to start

NOTE Confidence: 0.759384393692017

00:47:56.224 --> 00:47:57.580 getting these patients together.

NOTE Confidence: 0.759384393692017

00:47:57.580 --> 00:48:00.235 We have to learn though a little bit more.

NOTE Confidence: 0.759384393692017

00:48:00.240 --> 00:48:02.319 My point now to all of you.

NOTE Confidence: 0.759384393692017

00:48:02.320 --> 00:48:04.060 Is we can treat these patients.

NOTE Confidence: 0.759384393692017

00:48:04.060 --> 00:48:05.072 It was well tolerated,

NOTE Confidence: 0.759384393692017

00:48:05.072 --> 00:48:07.232 but we need to know in advance who

NOTE Confidence: 0.759384393692017

00:48:07.232 --> 00:48:09.276 are these patients so that those who

NOTE Confidence: 0.759384393692017

00:48:09.276 --> 00:48:11.599 can get immunotherapy alone can get it.

NOTE Confidence: 0.759384393692017

00:48:11.600 --> 00:48:13.050 And those that the combinations

NOTE Confidence: 0.759384393692017

00:48:13.050 --> 00:48:14.210 of drugs or chemotherapy.

NOTE Confidence: 0.759384393692017

00:48:14.210 --> 00:48:15.462 They can get it.

NOTE Confidence: 0.759384393692017

00:48:15.462 --> 00:48:18.034 So that's where I think we need to

NOTE Confidence: 0.759384393692017

00:48:18.034 --> 00:48:21.290 put all of our efforts in the next few years.

NOTE Confidence: 0.759384393692017

00:48:21.290 --> 00:48:24.216 So do we need to personalize immunotherapy?

NOTE Confidence: 0.759384393692017

00:48:24.220 --> 00:48:26.950 Absolutely. We spent 20 years

NOTE Confidence: 0.759384393692017

00:48:26.950 --> 00:48:28.588 personalizing targeted therapy.

NOTE Confidence: 0.759384393692017

00:48:28.590 --> 00:48:31.740 I showed you that we're still not there yet.

NOTE Confidence: 0.759384393692017

00:48:31.740 --> 00:48:33.840 We're still waiting for more data.

NOTE Confidence: 0.759384393692017

00:48:33.840 --> 00:48:35.940 It's still a small population that

NOTE Confidence: 0.759384393692017

00:48:35.940 --> 00:48:37.690 we're treating. We need biomarkers.

NOTE Confidence: 0.759384393692017

00:48:37.690 --> 00:48:39.090 We need better combos.

NOTE Confidence: 0.759384393692017

00:48:39.090 --> 00:48:40.490 We need more science.

NOTE Confidence: 0.759384393692017

00:48:40.490 --> 00:48:42.240 We need innovative trial designs,

NOTE Confidence: 0.759384393692017

00:48:42.240 --> 00:48:42.702 collaboration,

NOTE Confidence: 0.759384393692017

00:48:42.702 --> 00:48:44.550 and public private partnerships.

NOTE Confidence: 0.759384393692017

00:48:44.550 --> 00:48:46.610 I would say to all of you watching right now.

NOTE Confidence: 0.903504848480225

00:48:46.610 --> 00:48:48.026 The future is now I'm going

NOTE Confidence: 0.903504848480225

00:48:48.026 --> 00:48:49.605 to give you an opportunity to

NOTE Confidence: 0.903504848480225

00:48:49.605 --> 00:48:51.614 work with us in the last slide.

NOTE Confidence: 0.903504848480225

00:48:51.620 --> 00:48:53.450 So what are we waiting for?

NOTE Confidence: 0.903504848480225

00:48:53.450 --> 00:48:54.980 It's time to target immunotherapy,

NOTE Confidence: 0.903504848480225

00:48:54.980 --> 00:48:57.234 and you know, we can't just give

NOTE Confidence: 0.903504848480225

00:48:57.234 --> 00:48:59.159 these drugs to all patients.

NOTE Confidence: 0.903504848480225

00:48:59.160 --> 00:48:59.997 We've we've we've,

NOTE Confidence: 0.903504848480225

00:48:59.997 --> 00:49:01.392 it's amazing the number of

NOTE Confidence: 0.903504848480225

00:49:01.392 --> 00:49:02.620 diseases that it benefited.

NOTE Confidence: 0.903504848480225

00:49:02.620 --> 00:49:04.336 All diseases benefit to some extent,

NOTE Confidence: 0.903504848480225

00:49:04.340 --> 00:49:06.356 but there are cold tumors there too,

NOTE Confidence: 0.903504848480225

00:49:06.360 --> 00:49:08.088 is it don't have much PDL?

NOTE Confidence: 0.903504848480225

00:49:08.090 --> 00:49:10.214 One we have to better understand

NOTE Confidence: 0.903504848480225

00:49:10.214 --> 00:49:12.395 this and that's going to mean

NOTE Confidence: 0.903504848480225

00:49:12.395 --> 00:49:14.130 better science in the clinic.

NOTE Confidence: 0.903504848480225

00:49:14.130 --> 00:49:16.298 Now Scott shared this with me this morning

NOTE Confidence: 0.903504848480225

00:49:16.298 --> 00:49:18.810 and this is our exceptional responder cohort,

NOTE Confidence: 0.903504848480225

00:49:18.810 --> 00:49:20.550 so you can see these are

NOTE Confidence: 0.903504848480225

00:49:20.550 --> 00:49:22.550 patients for whom we have tissue,

NOTE Confidence: 0.903504848480225

00:49:22.550 --> 00:49:24.422 and you can see months from

NOTE Confidence: 0.903504848480225

00:49:24.422 --> 00:49:25.046 starting immunotherapy.

NOTE Confidence: 0.903504848480225

00:49:25.050 --> 00:49:27.052 So we've got quite a few there

NOTE Confidence: 0.903504848480225

00:49:27.052 --> 00:49:29.110 that are out three four years.

NOTE Confidence: 0.903504848480225

00:49:29.110 --> 00:49:30.838 So now what we need to do is we

NOTE Confidence: 0.903504848480225

00:49:30.838 --> 00:49:32.522 need complete analysis of these

NOTE Confidence: 0.903504848480225

00:49:32.522 --> 00:49:34.312 patients apples to inform future

NOTE Confidence: 0.903504848480225

00:49:34.312 --> 00:49:36.279 studies to personalize immunotherapy.

NOTE Confidence: 0.903504848480225

00:49:36.280 --> 00:49:37.165 That's on going.

NOTE Confidence: 0.903504848480225

00:49:37.165 --> 00:49:39.230 My prediction is it's not going to

NOTE Confidence: 0.903504848480225

00:49:39.297 --> 00:49:41.265 just sequencing if we do sequence,

NOTE Confidence: 0.903504848480225

00:49:41.270 --> 00:49:42.570 we're going to sequence.

NOTE Confidence: 0.903504848480225

00:49:42.570 --> 00:49:44.195 So tumor and the host.

NOTE Confidence: 0.903504848480225

00:49:44.200 --> 00:49:45.970 So maybe this generations project will

NOTE Confidence: 0.903504848480225

00:49:45.970 --> 00:49:48.200 help us that's being done at Young Haven,

NOTE Confidence: 0.903504848480225

00:49:48.200 --> 00:49:50.209 but this is something we can do.

NOTE Confidence: 0.903504848480225

00:49:50.210 --> 00:49:53.276 We will do, we must do.

NOTE Confidence: 0.903504848480225

00:49:53.280 --> 00:49:54.572 Adaptive trial designs and

NOTE Confidence: 0.903504848480225

00:49:54.572 --> 00:49:55.864 new protocols are needed.

NOTE Confidence: 0.903504848480225

00:49:55.870 --> 00:49:57.814 I didn't have much time to

NOTE Confidence: 0.903504848480225

00:49:57.814 --> 00:49:59.110 talk about this today,

NOTE Confidence: 0.903504848480225

00:49:59.110 --> 00:50:01.238 but a lot of this tissue sampling

NOTE Confidence: 0.903504848480225

00:50:01.238 --> 00:50:03.320 has come from the battle trial.

NOTE Confidence: 0.903504848480225

00:50:03.320 --> 00:50:05.084 It's 15 years since we started

NOTE Confidence: 0.903504848480225

00:50:05.084 --> 00:50:06.890 that trial at MD Anderson.

NOTE Confidence: 0.903504848480225

00:50:06.890 --> 00:50:08.834 I think the same principles would

NOTE Confidence: 0.903504848480225

00:50:08.834 --> 00:50:10.130 apply adaptive trial design.

NOTE Confidence: 0.903504848480225

00:50:10.130 --> 00:50:10.453 Europe,

NOTE Confidence: 0.903504848480225

00:50:10.453 --> 00:50:12.714 England has a national lung matrix project.

NOTE Confidence: 0.903504848480225

00:50:12.720 --> 00:50:14.580 I think this is something that

NOTE Confidence: 0.903504848480225

00:50:14.580 --> 00:50:16.609 we certainly want to think about.

NOTE Confidence: 0.903504848480225

00:50:16.610 --> 00:50:18.788 Targeted therapy for patients based on

NOTE Confidence: 0.903504848480225

00:50:18.788 --> 00:50:20.819 biomarkers we already happened in the US.

NOTE Confidence: 0.903504848480225

00:50:20.820 --> 00:50:22.776 This is the lung map trial

NOTE Confidence: 0.903504848480225

00:50:22.776 --> 00:50:24.390 in which I'm the Pi.

NOTE Confidence: 0.903504848480225

00:50:24.390 --> 00:50:25.710 A large public private partnership.

NOTE Confidence: 0.903504848480225

00:50:25.710 --> 00:50:27.294 About 100 of us in the

NOTE Confidence: 0.903504848480225

00:50:27.294 --> 00:50:28.086 leadership working together,

NOTE Confidence: 0.903504848480225

00:50:28.090 --> 00:50:29.672 we have this open at yellow or

NOTE Confidence: 0.903504848480225

00:50:29.672 --> 00:50:31.518 one of the number one cruisers.

NOTE Confidence: 0.903504848480225

00:50:31.520 --> 00:50:33.624 Her child does a great job with this,

NOTE Confidence: 0.903504848480225

00:50:33.630 --> 00:50:34.686 and if so, how?

NOTE Confidence: 0.903504848480225

00:50:34.686 --> 00:50:35.478 At the VA,

NOTE Confidence: 0.903504848480225

00:50:35.480 --> 00:50:37.724 but targeting patients with mutations but

NOTE Confidence: 0.903504848480225

00:50:37.724 --> 00:50:40.300 also patients who are immune resistant.

NOTE Confidence: 0.903504848480225

00:50:40.300 --> 00:50:42.130 There are many new drugs we

NOTE Confidence: 0.903504848480225

00:50:42.130 --> 00:50:44.239 need to work with these drugs.

NOTE Confidence: 0.903504848480225

00:50:44.240 --> 00:50:47.090 We need to combine these drugs.

NOTE Confidence: 0.903504848480225

00:50:47.090 --> 00:50:47.329 Again,

NOTE Confidence: 0.903504848480225

00:50:47.329 --> 00:50:49.002 this I just meant to show that

NOTE Confidence: 0.903504848480225

00:50:49.002 --> 00:50:50.269 if we combine them,

NOTE Confidence: 0.903504848480225

00:50:50.270 --> 00:50:52.174 You have to do it rationally and

NOTE Confidence: 0.903504848480225

00:50:52.174 --> 00:50:54.611 we have to do it based on the

NOTE Confidence: 0.903504848480225

00:50:54.611 --> 00:50:56.161 science and what we've learned

NOTE Confidence: 0.903504848480225

00:50:56.233 --> 00:50:58.389 about the immune microenvironment.

NOTE Confidence: 0.903504848480225

00:50:58.390 --> 00:51:00.250 This is an amazing trial that

NOTE Confidence: 0.903504848480225

00:51:00.250 --> 00:51:02.010 Scott leads with Richard for Val,

NOTE Confidence: 0.903504848480225

00:51:02.010 --> 00:51:03.226 David, Hafler, Kurt, Katie.

NOTE Confidence: 0.903504848480225

00:51:03.226 --> 00:51:05.673 We have ample amount of all map now

NOTE Confidence: 0.903504848480225

00:51:05.673 --> 00:51:07.365 and approved regimen and we have

NOTE Confidence: 0.903504848480225

00:51:07.365 --> 00:51:09.259 about 3040 patients in this trial.

NOTE Confidence: 0.903504848480225

00:51:09.260 --> 00:51:11.676 It's Open at 9 or 10 other sites.

NOTE Confidence: 0.903504848480225

00:51:11.680 --> 00:51:12.535 Everyone gets tissue,

NOTE Confidence: 0.903504848480225

00:51:12.535 --> 00:51:14.245 blood and stool for microbiome and

NOTE Confidence: 0.903504848480225

00:51:14.245 --> 00:51:15.909 we're putting the markers together.

NOTE Confidence: 0.903504848480225

00:51:15.910 --> 00:51:17.716 It's just at the point now.

NOTE Confidence: 0.903504848480225

00:51:17.720 --> 00:51:19.230 It's been 3 four years,

NOTE Confidence: 0.903504848480225

00:51:19.230 --> 00:51:21.798 then we're going to try to get some

NOTE Confidence: 0.903504848480225

00:51:21.798 --> 00:51:24.378 information on who benefits and who doesn't.

NOTE Confidence: 0.815827786922455

00:51:24.380 --> 00:51:26.216 So finally I told you I'd

NOTE Confidence: 0.815827786922455

00:51:26.216 --> 00:51:27.440 give you a challenge.

NOTE Confidence: 0.815827786922455

00:51:27.440 --> 00:51:29.060 I would propose that we need

NOTE Confidence: 0.815827786922455

00:51:29.060 --> 00:51:31.109 to do the eye bulldog trial,

NOTE Confidence: 0.815827786922455

00:51:31.110 --> 00:51:33.140 and I've been talking to Pat and

NOTE Confidence: 0.815827786922455

00:51:33.140 --> 00:51:35.022 best phase one and drug developer

NOTE Confidence: 0.815827786922455

00:51:35.022 --> 00:51:37.227 I know and she'll get the drugs.

NOTE Confidence: 0.815827786922455

00:51:37.230 --> 00:51:39.066 She understands a science Ed Captain.

NOTE Confidence: 0.815827786922455

00:51:39.070 --> 00:51:41.205 We need him. It's just the amazing,

NOTE Confidence: 0.815827786922455

00:51:41.210 --> 00:51:43.058 most amazing person at bringing teams

NOTE Confidence: 0.815827786922455

00:51:43.058 --> 00:51:45.490 together and where we work so well together.

NOTE Confidence: 0.815827786922455

00:51:45.490 --> 00:51:47.938 So we're going to actually take a trial.

NOTE Confidence: 0.815827786922455

00:51:47.940 --> 00:51:50.636 Now we're going to try to use biomarker

NOTE Confidence: 0.815827786922455

00:51:50.636 --> 00:51:52.010 development biomarker prediction to

NOTE Confidence: 0.815827786922455

00:51:52.010 --> 00:51:54.250 treat patients based on that with trials

NOTE Confidence: 0.815827786922455

00:51:54.250 --> 00:51:56.570 and the reason I want to show this now.

NOTE Confidence: 0.815827786922455

00:51:56.570 --> 00:51:57.920 Is we're now accepting applications,

NOTE Confidence: 0.815827786922455

00:51:57.920 --> 00:51:59.540 so I'm announcing a new PO1

NOTE Confidence: 0.815827786922455

00:51:59.540 --> 00:52:00.620 group that's forming today.

NOTE Confidence: 0.815827786922455

00:52:00.620 --> 00:52:02.510 We're going to start having some meetings.

NOTE Confidence: 0.815827786922455

00:52:02.510 --> 00:52:04.940 I'd like to take the best science of yell,

NOTE Confidence: 0.815827786922455

00:52:04.940 --> 00:52:06.020 the best clinical science.

NOTE Confidence: 0.815827786922455

00:52:06.020 --> 00:52:07.640 I'd like to merge them together.

NOTE Confidence: 0.815827786922455

00:52:07.640 --> 00:52:09.800 I can tell you it's not really easy.

NOTE Confidence: 0.815827786922455

00:52:09.800 --> 00:52:10.340 In fact,

NOTE Confidence: 0.815827786922455

00:52:10.340 --> 00:52:12.500 most people tell you it can't be done.

NOTE Confidence: 0.815827786922455

00:52:12.500 --> 00:52:14.468 Used to work a lot of the Folkman

NOTE Confidence: 0.815827786922455

00:52:14.468 --> 00:52:16.520 he used to tell me that's exactly

NOTE Confidence: 0.815827786922455

00:52:16.520 --> 00:52:18.440 the time when you should do it,

NOTE Confidence: 0.815827786922455

00:52:18.440 --> 00:52:19.934 so we're going to make this

NOTE Confidence: 0.815827786922455

00:52:19.934 --> 00:52:21.410 happen and I'm very excited,

NOTE Confidence: 0.815827786922455

00:52:21.410 --> 00:52:23.498 and I think I've shown you

NOTE Confidence: 0.815827786922455

00:52:23.498 --> 00:52:25.340 that progress can be made.

NOTE Confidence: 0.815827786922455

00:52:25.340 --> 00:52:28.260 So I just want to thank all of you today.

NOTE Confidence: 0.815827786922455

00:52:28.260 --> 00:52:30.297 It's just been an amazing team effort.

NOTE Confidence: 0.815827786922455

00:52:30.300 --> 00:52:32.636 I want to especially thank the Yale School

NOTE Confidence: 0.815827786922455

00:52:32.636 --> 00:52:34.679 of Medicine by Albert for his support.

NOTE Confidence: 0.815827786922455

00:52:34.680 --> 00:52:36.654 The teacher grants that have led to

NOTE Confidence: 0.815827786922455

00:52:36.654 --> 00:52:39.025 these spores and now Nancy Brown and her

NOTE Confidence: 0.815827786922455

00:52:39.025 --> 00:52:40.820 team have continued to support this.

NOTE Confidence: 0.815827786922455

00:52:40.820 --> 00:52:43.004 Brian Smith and of course Charlie in

NOTE Confidence: 0.815827786922455

00:52:43.004 --> 00:52:45.027 the Yellow Cancer Center for all the

NOTE Confidence: 0.815827786922455

00:52:45.027 --> 00:52:47.503 money we get from the NCI we get all

NOTE Confidence: 0.815827786922455

00:52:47.503 --> 00:52:49.279 the resources of the Cancer Center.

NOTE Confidence: 0.815827786922455

00:52:49.280 --> 00:52:51.072 We get additional money for the DRP&C

NOTE Confidence: 0.815827786922455

00:52:51.072 --> 00:52:52.244 programs that career development

NOTE Confidence: 0.815827786922455

00:52:52.244 --> 00:52:53.660 and that's really important.

NOTE Confidence: 0.815827786922455

00:52:53.660 --> 00:52:55.508 So with that out. Thank you.

NOTE Confidence: 0.815827786922455

00:52:55.510 --> 00:52:56.848 And hopefully we have time for

NOTE Confidence: 0.815827786922455

00:52:56.848 --> 00:52:57.740 a couple of questions.

NOTE Confidence: 0.815827786922455

00:52:57.740 --> 00:52:59.640 Thank you very much.

NOTE Confidence: 0.815827786922455

00:52:59.640 --> 00:53:00.040 Or

NOTE Confidence: 0.871582269668579

00:53:00.040 --> 00:53:02.428 thank you. That was just fabulous.

NOTE Confidence: 0.871582269668579

00:53:02.430 --> 00:53:04.385 And congratulations to you and

NOTE Confidence: 0.871582269668579

00:53:04.385 --> 00:53:07.207 really everyone on the team or just

NOTE Confidence: 0.871582269668579

00:53:07.207 --> 00:53:09.583 amazingly impactful work in this field.

NOTE Confidence: 0.871582269668579

00:53:09.590 --> 00:53:11.978 I got some of the team

NOTE Confidence: 0.871582269668579

00:53:11.980 --> 00:53:14.092 here so I had a little

NOTE Confidence: 0.871582269668579

00:53:14.092 --> 00:53:16.780 bit of a live audience so.

NOTE Confidence: 0.871582269668579

00:53:16.780 --> 00:53:19.168 Excellent so folks should submit their

NOTE Confidence: 0.84531182050705

00:53:19.170 --> 00:53:21.170 questions on the chat function,

NOTE Confidence: 0.84531182050705

00:53:21.170 --> 00:53:24.162 but I I'll start while people are typing

NOTE Confidence: 0.84531182050705

00:53:24.162 --> 00:53:27.147 so you have a couple of questions.

NOTE Confidence: 0.84531182050705

00:53:27.150 --> 00:53:30.174 One that I'm just curious 'cause I've I've

NOTE Confidence: 0.84531182050705

00:53:30.174 --> 00:53:33.540 seen the data from the Bureau study before,

NOTE Confidence: 0.84531182050705

00:53:33.540 --> 00:53:35.845 but I didn't fully appreciate

NOTE Confidence: 0.84531182050705

00:53:35.845 --> 00:53:38.683 when you look at mutation type

NOTE Confidence: 0.84531182050705

00:53:38.683 --> 00:53:40.918 on the Florida forest plot.

NOTE Confidence: 0.84531182050705

00:53:40.920 --> 00:53:43.230 There seemed to be potentially a

NOTE Confidence: 0.84531182050705

00:53:43.230 --> 00:53:45.200 difference depending on the mutation

NOTE Confidence: 0.84531182050705

00:53:45.200 --> 00:53:47.396 type where it almost look like.

NOTE Confidence: 0.84531182050705

00:53:47.400 --> 00:53:48.920 They're confidence limits were

NOTE Confidence: 0.84531182050705

00:53:48.920 --> 00:53:49.680 not overlapping.

NOTE Confidence: 0.84531182050705

00:53:49.680 --> 00:53:51.208 did I misinterpret that

NOTE Confidence: 0.818162441253662

00:53:51.210 --> 00:53:53.922 no well, the good news is that both

NOTE Confidence: 0.818162441253662

00:53:53.922 --> 00:53:55.946 mutation types benefited in this

NOTE Confidence: 0.818162441253662

00:53:55.946 --> 00:53:58.066 trout in the metastatic setting.

NOTE Confidence: 0.818162441253662

00:53:58.070 --> 00:54:00.387 There is much more of a benefit

NOTE Confidence: 0.818162441253662

00:54:00.387 --> 00:54:02.753 for the exon 19 deletion versus

NOTE Confidence: 0.818162441253662

00:54:02.753 --> 00:54:04.913 the exon 21 point Mutation.

NOTE Confidence: 0.818162441253662

00:54:04.920 --> 00:54:06.392 As you can imagine,

NOTE Confidence: 0.818162441253662

00:54:06.392 --> 00:54:08.600 you would think that deletion might

NOTE Confidence: 0.818162441253662

00:54:08.674 --> 00:54:11.020 be less likely to become resistant.

NOTE Confidence: 0.818162441253662

00:54:11.020 --> 00:54:13.306 But yeah, I think you know

NOTE Confidence: 0.818162441253662

00:54:13.306 --> 00:54:14.830 the numbers there are.

NOTE Confidence: 0.818162441253662

00:54:14.830 --> 00:54:15.895 About equivalent there,

NOTE Confidence: 0.818162441253662

00:54:15.895 --> 00:54:18.920 one of them does a little bit better,

NOTE Confidence: 0.818162441253662

00:54:18.920 --> 00:54:21.524 but I think the good news there

NOTE Confidence: 0.818162441253662

00:54:21.524 --> 00:54:24.140 was that both, or at least quite

NOTE Confidence: 0.818162441253662

00:54:24.140 --> 00:54:25.640 well significant compared to.

NOTE Confidence: 0.818162441253662

00:54:25.640 --> 00:54:27.146 The one the travel, of course,

NOTE Confidence: 0.818162441253662

00:54:27.150 --> 00:54:28.650 was empowered to compare the two.

NOTE Confidence: 0.791537046432495

00:54:29.380 --> 00:54:32.644 And then sort of on a related note.

NOTE Confidence: 0.791537046432495

00:54:32.650 --> 00:54:35.730 Curious to see what your you know

NOTE Confidence: 0.791537046432495

00:54:35.730 --> 00:54:38.195 what your expectations are for IO

NOTE Confidence: 0.791537046432495

00:54:38.195 --> 00:54:40.673 in the future value in the Agement

NOTE Confidence: 0.791537046432495

00:54:40.751 --> 00:54:43.663 set setting and then you know to

NOTE Confidence: 0.791537046432495

00:54:43.663 --> 00:54:46.147 what extent targeted agents in iok

NOTE Confidence: 0.791537046432495

00:54:46.147 --> 00:54:49.010 and can be combined either in the

NOTE Confidence: 0.791537046432495

00:54:49.010 --> 00:54:51.470 Azure and or the metastatic setting.

NOTE Confidence: 0.791537046432495

00:54:51.470 --> 00:54:53.070 That's a great question,

NOTE Confidence: 0.791537046432495

00:54:53.070 --> 00:54:56.430 so I of course trials are ongoing so.

NOTE Confidence: 0.791537046432495

00:54:56.430 --> 00:54:58.747 They are being done in many cases

NOTE Confidence: 0.791537046432495

00:54:58.747 --> 00:55:01.020 without biomarker, so I worry a little

NOTE Confidence: 0.791537046432495

00:55:01.020 --> 00:55:03.050 bit about that because you know,

NOTE Confidence: 0.791537046432495

00:55:03.050 --> 00:55:05.367 these agents do have to access city.

NOTE Confidence: 0.791537046432495

00:55:05.370 --> 00:55:07.826 I didn't mention it, I know I assume

NOTE Confidence: 0.791537046432495

00:55:07.826 --> 00:55:10.329 most of us are familiar with this,

NOTE Confidence: 0.791537046432495

00:55:10.330 --> 00:55:13.040 but the idea is that you can get with these

NOTE Confidence: 0.791537046432495

00:55:13.106 --> 00:55:15.626 immune therapies while mostly low level.

NOTE Confidence: 0.791537046432495

00:55:15.630 --> 00:55:16.623 Certainly pneumonitis is

NOTE Confidence: 0.791537046432495

00:55:16.623 --> 00:55:17.947 something to worry about,

NOTE Confidence: 0.791537046432495

00:55:17.950 --> 00:55:19.620 and Carditis and other things.

NOTE Confidence: 0.791537046432495

00:55:19.620 --> 00:55:21.404 In the aggregate setting,

NOTE Confidence: 0.791537046432495

00:55:21.404 --> 00:55:25.050 I think that I would give it a 5050.

NOTE Confidence: 0.791537046432495

00:55:25.050 --> 00:55:27.570 Whether these trials will be positive.

NOTE Confidence: 0.791537046432495

00:55:27.570 --> 00:55:28.698 It's hard to file.

NOTE Confidence: 0.791537046432495

00:55:28.698 --> 00:55:30.390 We don't know the PD L1

NOTE Confidence: 0.791537046432495

00:55:30.461 --> 00:55:31.937 status often of these.

NOTE Confidence: 0.791537046432495

00:55:31.940 --> 00:55:33.495 These tumors were not following

NOTE Confidence: 0.791537046432495

00:55:33.495 --> 00:55:34.117 micrometastatic disease.

NOTE Confidence: 0.791537046432495

00:55:34.120 --> 00:55:36.038 I think in the future shortly we're

NOTE Confidence: 0.791537046432495

00:55:36.038 --> 00:55:38.175 going to use MRD techniques and these

NOTE Confidence: 0.791537046432495

00:55:38.175 --> 00:55:40.460 bespoke models to know who has minimal

NOTE Confidence: 0.791537046432495

00:55:40.460 --> 00:55:42.854 residual disease and much rather see it.

NOTE Confidence: 0.791537046432495

00:55:42.860 --> 00:55:45.303 Try where we know that someone has

NOTE Confidence: 0.791537046432495

00:55:45.303 --> 00:55:47.052 minimal residual disease and then

NOTE Confidence: 0.791537046432495

00:55:47.052 --> 00:55:48.966 use that route immune therapy to

NOTE Confidence: 0.791537046432495

00:55:48.966 --> 00:55:50.689 enhance that so it's being done

NOTE Confidence: 0.791537046432495

00:55:50.689 --> 00:55:52.866 sort of just as the next step and

NOTE Confidence: 0.791537046432495

00:55:52.866 --> 00:55:55.127 it might be that these are tumors

NOTE Confidence: 0.791537046432495

00:55:55.127 --> 00:55:57.576 that are not driven by PDL 1 maybe.

NOTE Confidence: 0.791537046432495

00:55:57.580 --> 00:56:00.420 They are the type 1 three or five or four.

NOTE Confidence: 0.791537046432495

00:56:00.420 --> 00:56:02.976 So I do worry about that a little bit,

NOTE Confidence: 0.791537046432495

00:56:02.980 --> 00:56:04.678 but you know, like anything else,

NOTE Confidence: 0.791537046432495

00:56:04.680 --> 00:56:06.378 depending on the population, they get.

NOTE Confidence: 0.791537046432495

00:56:06.380 --> 00:56:07.928 If it's a highly smoking related

NOTE Confidence: 0.791537046432495

00:56:07.928 --> 00:56:09.343 population that might have higher

NOTE Confidence: 0.791537046432495

00:56:09.343 --> 00:56:10.360 tumor mutational burden,

NOTE Confidence: 0.791537046432495

00:56:10.360 --> 00:56:12.346 perhaps it will be positive, but no,

NOTE Confidence: 0.791537046432495

00:56:12.346 --> 00:56:14.044 it gets all the same questions.

NOTE Confidence: 0.791537046432495

00:56:14.050 --> 00:56:16.606 How long to treat know what are you treating?

NOTE Confidence: 0.791537046432495

00:56:16.610 --> 00:56:18.675 But I'm glad that the experiments are

NOTE Confidence: 0.791537046432495

00:56:18.675 --> 00:56:20.487 ongoing and hopefully there are blood

NOTE Confidence: 0.791537046432495

00:56:20.487 --> 00:56:22.227 samples that are being obtained from

NOTE Confidence: 0.791537046432495

00:56:22.227 --> 00:56:24.359 those trials so that we can look and

NOTE Confidence: 0.791537046432495

00:56:24.359 --> 00:56:26.282 see what's happening in real time now.

NOTE Confidence: 0.791537046432495

00:56:26.282 --> 00:56:28.010 The other question you answer is.

NOTE Confidence: 0.791537046432495

00:56:28.010 --> 00:56:30.450 But I'd love to do, you know,

NOTE Confidence: 0.791537046432495

00:56:30.450 --> 00:56:32.460 we know that targeted therapy you

NOTE Confidence: 0.791537046432495

00:56:32.460 --> 00:56:34.717 have in each year for mutation,

NOTE Confidence: 0.791537046432495

00:56:34.720 --> 00:56:36.128 80% chance of tumor,

NOTE Confidence: 0.791537046432495

00:56:36.128 --> 00:56:37.536 will respond to patient.

NOTE Confidence: 0.791537046432495

00:56:37.540 --> 00:56:38.968 Feels better within days,

NOTE Confidence: 0.791537046432495

00:56:38.968 --> 00:56:40.753 so why not use immunotherapy

NOTE Confidence: 0.791537046432495

00:56:40.753 --> 00:56:42.130 targeted therapy early on,

NOTE Confidence: 0.791537046432495

00:56:42.130 --> 00:56:43.885 knowing that resistance will ultimately

NOTE Confidence: 0.791537046432495

00:56:43.885 --> 00:56:46.720 develop and then bring on the immune therapy,

NOTE Confidence: 0.791537046432495

00:56:46.720 --> 00:56:48.480 which takes awhile to work,

NOTE Confidence: 0.791537046432495

00:56:48.480 --> 00:56:51.063 but will have a mug shot but will have

NOTE Confidence: 0.791537046432495

00:56:51.063 --> 00:56:53.436 a much more durable response that's

NOTE Confidence: 0.791537046432495

00:56:53.436 --> 00:56:56.599 been tried an at least in lung cancer.

NOTE Confidence: 0.791537046432495

00:56:56.600 --> 00:56:58.440 The toxicity has just been.

NOTE Confidence: 0.791537046432495

00:56:58.440 --> 00:57:01.240 Unbearable both in Asia and in the US.

NOTE Confidence: 0.791537046432495

00:57:01.240 --> 00:57:02.233 Not sure why,

NOTE Confidence: 0.791537046432495

00:57:02.233 --> 00:57:04.550 but I guess the reactivation of the

NOTE Confidence: 0.791537046432495

00:57:04.627 --> 00:57:07.063 immunity in patients that are getting

NOTE Confidence: 0.791537046432495

00:57:07.063 --> 00:57:09.653 these EGFR agents that do tend to

NOTE Confidence: 0.791537046432495

00:57:09.653 --> 00:57:11.739 have issues with the skin and the

NOTE Confidence: 0.791537046432495

00:57:11.740 --> 00:57:13.490 long term institutional lung disease.

NOTE Confidence: 0.791537046432495

00:57:13.490 --> 00:57:15.940 Those toxicities have precluded that so far.

NOTE Confidence: 0.791537046432495

00:57:15.940 --> 00:57:16.668 That said,

NOTE Confidence: 0.791537046432495

00:57:16.668 --> 00:57:19.580 there are other ways to other agents that

NOTE Confidence: 0.791537046432495

00:57:19.650 --> 00:57:22.584 can be looked at that are now being tried.

NOTE Confidence: 0.791537046432495

00:57:22.590 --> 00:57:23.631 Lag 3 Tim.

NOTE Confidence: 0.791537046432495

00:57:23.631 --> 00:57:25.366 3 maybe the cyclic that

NOTE Confidence: 0.791537046432495

00:57:25.366 --> 00:57:27.139 all should be looked at.

NOTE Confidence: 0.791537046432495

00:57:27.140 --> 00:57:28.440 So I think that.

NOTE Confidence: 0.791537046432495

00:57:28.440 --> 00:57:30.880 That has to be the next step,

NOTE Confidence: 0.791537046432495

00:57:30.880 --> 00:57:32.878 because each year for mutated disease,

NOTE Confidence: 0.791537046432495

00:57:32.880 --> 00:57:34.540 as good as it is,

NOTE Confidence: 0.798479497432709

00:57:34.540 --> 00:57:36.526 at least in the metastatic setting,

NOTE Confidence: 0.798479497432709

00:57:36.530 --> 00:57:38.190 we still have many patients.

NOTE Confidence: 0.798479497432709

00:57:38.190 --> 00:57:39.850 In fact, most will recur,

NOTE Confidence: 0.798479497432709

00:57:39.850 --> 00:57:41.842 and so I think trials are

NOTE Confidence: 0.798479497432709

00:57:41.842 --> 00:57:43.170 warranted there and then.

NOTE Confidence: 0.798479497432709

00:57:43.170 --> 00:57:45.825 You know, I'm hoping that in the Dora the

NOTE Confidence: 0.798479497432709

00:57:45.825 --> 00:57:48.000 longer duration of therapy with better

NOTE Confidence: 0.798479497432709

00:57:48.000 --> 00:57:50.798 agent in an earlier setting will result in.

NOTE Confidence: 0.798479497432709

00:57:50.800 --> 00:57:53.456 Curious, but we don't know that yet either.

NOTE Confidence: 0.798479497432709

00:57:53.460 --> 00:57:55.120 Going to follow those patients

NOTE Confidence: 0.798479497432709

00:57:55.120 --> 00:57:56.448 for awhile for survival.

NOTE Confidence: 0.798479497432709

00:57:56.450 --> 00:57:58.424 Thank you. Actually a few questions

NOTE Confidence: 0.798479497432709

00:57:58.424 --> 00:58:00.867 coming in one comment that will offer

NOTE Confidence: 0.798479497432709

00:58:00.867 --> 00:58:02.637 quickly is Stephanie Lien Rights.

NOTE Confidence: 0.798479497432709

00:58:02.640 --> 00:58:04.065 Congrats, beautiful multiple

NOTE Confidence: 0.798479497432709

00:58:04.065 --> 00:58:05.490 exclamation points Stephanie.

NOTE Confidence: 0.798479497432709

00:58:05.490 --> 00:58:07.866 Thank Stephanie Pat Larusso asks,

NOTE Confidence: 0.798479497432709

00:58:07.866 --> 00:58:10.878 do you think the scenario will be

NOTE Confidence: 0.798479497432709

00:58:10.878 --> 00:58:13.752 the same with G12C rash mutations

NOTE Confidence: 0.798479497432709

00:58:13.752 --> 00:58:16.890 in combination with IO? OK so

NOTE Confidence: 0.791898965835571

00:58:16.890 --> 00:58:20.215 so I didn't mention that but that's

NOTE Confidence: 0.791898965835571

00:58:20.215 --> 00:58:23.134 K wrasses, been the Holy Grail.

NOTE Confidence: 0.791898965835571

00:58:23.134 --> 00:58:26.080 So G12C mutations in lung cancer

NOTE Confidence: 0.791898965835571

00:58:26.175 --> 00:58:28.767 account for about 12 to 13%.

NOTE Confidence: 0.791898965835571

00:58:28.770 --> 00:58:32.676 That's more than each year for mutations.

NOTE Confidence: 0.791898965835571

00:58:32.680 --> 00:58:35.456 Now there will be a big talk actually.

NOTE Confidence: 0.791898965835571

00:58:35.460 --> 00:58:37.896 12 C&K Ras the engine drag asmo.

NOTE Confidence: 0.791898965835571

00:58:37.900 --> 00:58:39.988 I believe this Sunday or Monday.

NOTE Confidence: 0.791898965835571

00:58:39.990 --> 00:58:41.730 We know that their responses.

NOTE Confidence: 0.791898965835571

00:58:41.730 --> 00:58:43.818 You know that's been presented already.

NOTE Confidence: 0.791898965835571

00:58:43.820 --> 00:58:46.172 In fact, Yosi and I wrote an

NOTE Confidence: 0.791898965835571

00:58:46.172 --> 00:58:47.990 editorial on this last year.

NOTE Confidence: 0.791898965835571

00:58:47.990 --> 00:58:49.868 We also know that the activity

NOTE Confidence: 0.791898965835571

00:58:49.868 --> 00:58:51.973 was best in preclinical models in

NOTE Confidence: 0.791898965835571

00:58:51.973 --> 00:58:53.557 immune competent animal models.

NOTE Confidence: 0.791898965835571

00:58:53.560 --> 00:58:56.638 So I do think that those agents are just

NOTE Confidence: 0.791898965835571

00:58:56.638 --> 00:58:59.477 begging to be combined with a new therapy.

NOTE Confidence: 0.791898965835571

00:58:59.480 --> 00:59:02.152 The one thing we don't know yet and

NOTE Confidence: 0.791898965835571

00:59:02.152 --> 00:59:04.029 hopefully will see this weekend.

NOTE Confidence: 0.791898965835571

00:59:04.030 --> 00:59:05.788 Is what is the durability of

NOTE Confidence: 0.791898965835571

00:59:05.788 --> 00:59:08.049 response for K Ras agents alone you

NOTE Confidence: 0.791898965835571

00:59:08.049 --> 00:59:10.089 worry since K races so upstream,

NOTE Confidence: 0.791898965835571

00:59:10.090 --> 00:59:12.004 but they're going to be so

NOTE Confidence: 0.791898965835571

00:59:12.004 --> 00:59:13.280 many bypassed pathways there.

NOTE Confidence: 0.791898965835571

00:59:13.280 --> 00:59:15.450 Will it have a median duration of

NOTE Confidence: 0.791898965835571

00:59:15.450 --> 00:59:18.067 response of at least six months or more?

NOTE Confidence: 0.791898965835571

00:59:18.070 --> 00:59:19.334 In fact, if not,

NOTE Confidence: 0.791898965835571

00:59:19.334 --> 00:59:21.230 I probably have to be combined

NOTE Confidence: 0.791898965835571

00:59:21.305 --> 00:59:23.286 so my phone is that very nice

NOTE Confidence: 0.791898965835571

00:59:23.286 --> 00:59:25.080 that we have these agents.

NOTE Confidence: 0.791898965835571

00:59:25.080 --> 00:59:28.270 the Q 12 see not as good in colon cancer,

NOTE Confidence: 0.791898965835571

00:59:28.270 --> 00:59:28.908 of course,

NOTE Confidence: 0.791898965835571

00:59:28.908 --> 00:59:30.503 but that's that's a smoking

NOTE Confidence: 0.791898965835571

00:59:30.503 --> 00:59:31.460 related KRS abnormality.

NOTE Confidence: 0.791898965835571

00:59:31.460 --> 00:59:33.644 Now we do have data that K Rasputin

NOTE Confidence: 0.791898965835571

00:59:33.644 --> 00:59:35.700 patients to respond to immunotherapy.

NOTE Confidence: 0.791898965835571

00:59:35.700 --> 00:59:38.076 But I think that combination is

NOTE Confidence: 0.791898965835571

00:59:38.076 --> 00:59:39.660 something that hopefully we're

NOTE Confidence: 0.791898965835571

00:59:39.732 --> 00:59:41.457 already doing here at yeah.

NOTE Confidence: 0.791898965835571

00:59:41.460 --> 00:59:44.148 So Sarah Goldberg already is running trials.

NOTE Confidence: 0.791898965835571

00:59:44.150 --> 00:59:45.185 Rick Wilson Patton.

NOTE Confidence: 0.791898965835571

00:59:45.185 --> 00:59:48.299 Navid have fares as a trial in the face.

NOTE Confidence: 0.791898965835571

00:59:48.300 --> 00:59:48.946 One group.

NOTE Confidence: 0.791898965835571

00:59:48.946 --> 00:59:50.884 These are all things were studying

NOTE Confidence: 0.784631133079529

00:59:50.890 --> 00:59:53.158 here and then. Final question from David.

NOTE Confidence: 0.784631133079529

00:59:53.160 --> 00:59:55.400 Rim is a diagnostic test needed to see

NOTE Confidence: 0.784631133079529

00:59:55.400 --> 00:59:57.838 who will benefit in the admin setting

NOTE Confidence: 0.784631133079529

00:59:57.838 --> 00:59:59.960 or should every mutation patient get?

NOTE Confidence: 0.784631133079529

00:59:59.960 --> 01:00:02.224 I guess those emergent OSI here, right?

NOTE Confidence: 0.784631133079529

01:00:02.224 --> 01:00:04.168 So I imagine I was hurt.

NOTE Confidence: 0.801788151264191

01:00:04.990 --> 01:00:06.760 And at this point, no.

NOTE Confidence: 0.801788151264191

01:00:06.760 --> 01:00:09.430 I think everyone who's EGFR Mutant.

NOTE Confidence: 0.801788151264191

01:00:09.430 --> 01:00:10.150 You know, you know.

NOTE Confidence: 0.801788151264191

01:00:10.150 --> 01:00:11.751 Again, you know there are going to be

NOTE Confidence: 0.801788151264191

01:00:11.751 --> 01:00:13.728 some who say we don't have survival data.

NOTE Confidence: 0.801788151264191

01:00:13.730 --> 01:00:15.536 I can share if I were giving

NOTE Confidence: 0.801788151264191

01:00:15.536 --> 01:00:17.279 this talk a week from now.

NOTE Confidence: 0.801788151264191

01:00:17.280 --> 01:00:18.988 I think I could put the nail

NOTE Confidence: 0.801788151264191

01:00:18.988 --> 01:00:20.830 in the case because you know,

NOTE Confidence: 0.801788151264191

01:00:20.830 --> 01:00:22.195 certainly if when we're not

NOTE Confidence: 0.801788151264191

01:00:22.195 --> 01:00:23.560 to metastasized to the brain.

NOTE Confidence: 0.801788151264191

01:00:23.560 --> 01:00:25.198 I think that's a good thing,

NOTE Confidence: 0.801788151264191

01:00:25.200 --> 01:00:26.560 but I think that yes,

NOTE Confidence: 0.801788151264191

01:00:26.560 --> 01:00:27.925 you know we're going to

NOTE Confidence: 0.801788151264191

01:00:27.925 --> 01:00:29.290 have to learn from this.

NOTE Confidence: 0.801788151264191

01:00:29.290 --> 01:00:31.124 I can't wait till dawn when gets

NOTE Confidence: 0.801788151264191

01:00:31.124 --> 01:00:32.700 those samples and he can sequence

NOTE Confidence: 0.801788151264191

01:00:32.700 --> 01:00:34.176 them and tell us who's going

NOTE Confidence: 0.801788151264191

01:00:34.176 --> 01:00:35.838 to metastasized to the brain.

NOTE Confidence: 0.801788151264191

01:00:35.840 --> 01:00:37.210 So we know that advance.

NOTE Confidence: 0.801788151264191

01:00:37.210 --> 01:00:39.145 We can look at the cell free DNA and

NOTE Confidence: 0.801788151264191

01:00:39.145 --> 01:00:40.993 know that someone is developing early

NOTE Confidence: 0.801788151264191

01:00:40.993 --> 01:00:42.940 resistance and maybe we get Katie.

NOTE Confidence: 0.801788151264191

01:00:42.940 --> 01:00:44.048 Some tumor actually can

NOTE Confidence: 0.801788151264191

01:00:44.048 --> 01:00:45.156 develop an animal model.

NOTE Confidence: 0.801788151264191

01:00:45.160 --> 01:00:47.246 There's still room to to do better,

NOTE Confidence: 0.801788151264191

01:00:47.250 --> 01:00:48.750 but I think right now,

NOTE Confidence: 0.801788151264191

01:00:48.750 --> 01:00:50.836 assuming approval, I think will use this.

NOTE Confidence: 0.801788151264191

01:00:50.840 --> 01:00:52.926 Then one of our surgeons right here.

NOTE Confidence: 0.801788151264191

01:00:52.930 --> 01:00:55.018 I have to convert him that he should

NOTE Confidence: 0.801788151264191

01:00:55.018 --> 01:00:57.230 send the sample for each year from

NOTE Confidence: 0.801788151264191

01:00:57.230 --> 01:00:59.210 Mutation and hopefully will do that.

NOTE Confidence: 0.801788151264191

01:00:59.210 --> 01:01:02.106 And hopefully David will help me with that.

NOTE Confidence: 0.801788151264191

01:01:02.110 --> 01:01:02.430 Alright,

NOTE Confidence: 0.897413551807404

01:01:02.430 --> 01:01:04.050 thank you, I know we're out

NOTE Confidence: 0.897413551807404

01:01:04.050 --> 01:01:06.219 of time is a fantastic talk.

NOTE Confidence: 0.897413551807404

01:01:06.220 --> 01:01:07.117 Great, great work.

NOTE Confidence: 0.897413551807404

01:01:07.117 --> 01:01:09.210 Thank you for all that you're doing

NOTE Confidence: 0.897413551807404

01:01:09.275 --> 01:01:10.960 in your leadership. And again,

NOTE Confidence: 0.897413551807404

01:01:10.960 --> 01:01:12.850 thank you for a fantastic presentation.

NOTE Confidence: 0.897413551807404

01:01:12.850 --> 01:01:14.750 Thanks for all your support. Again.

NOTE Confidence: 0.897413551807404

01:01:14.750 --> 01:01:16.899 It's it's the Cancer Center that supports

NOTE Confidence: 0.897413551807404

01:01:16.899 --> 01:01:19.155 the teams that really can make the

NOTE Confidence: 0.897413551807404

01:01:19.155 --> 01:01:21.063 difference that can help the patients.

NOTE Confidence: 0.856624841690063

01:01:22.410 --> 01:01:24.305 Eventually everyone have a good

NOTE Confidence: 0.856624841690063

01:01:24.305 --> 01:01:27.003 day and will see you next week.