

Yale CANCER
CENTER
answers

WNPR Connecticut Public Radio



Hosts

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**Treating Cancers of the
Head and Neck**

**Guest Expert:
Hari Deshpande, MD and
Clarence Sasaki, MD**

Yale Cancer Center Answers

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Welcome to Yale Cancer Center Answers with Dr. Ed Chu and Dr. Francine Foss, I am Bruce Barber. Dr. Chu is Deputy Director and Chief of Medical Oncology at Yale Cancer Center and Dr. Foss is a Professor of Medical Oncology and Dermatology specializing in the treatment of lymphomas. If you would like to join the conversation, you can contact the doctors directly. The address is canceranswers@yale.edu and the phone number is 1888-234-4YCC. This evening Ed is joined by Dr. Clarence Sasaki and Hari Deshpande. Dr. Sasaki is the Charles W. Ohse Professor of Surgery and Section Chief of Surgery and Otolaryngology and Dr. Deshpande is an Assistant Professor of Surgical Otolaryngology at Yale School of Medicine. They both are experts in the diagnosis and treatment of head and neck cancers. Here is Ed Chu.

Chu Why don't we start off by first defining for our listeners what head and neck cancer is?

Sasaki Most head and neck cancer arise from the lining of the throat, mouth, or in the sinuses or nose. 95% of them are represented by a disease called squamous cell carcinoma. The other 5% arise from salivary glands and there are many salivary glands that line the oral cavity, the tongue, and the throat and often times these give rise to specific kinds of cancer that lie outside of the normal characterization of squamous cell carcinoma.

Chu How significant an issue is head and neck cancer?

Deshpande In this country we see between 40 and 50 thousand cases a year, so it's not an insignificant number, and worldwide the number is much higher, it is probably closer to about half a million cases every year.

Chu That's pretty significant.

Deshpande Yes.

Chu Do we have a sense of the underlying risk factors for an individual to develop head and neck cancer?

Sasaki It's clear that historically tobacco exposure was the most important risk factor and if one drinks and smokes, you do not actually double your risk of getting head and neck cancer, but you increase it by 15 times, so drinking and smoking is an especially deadly combination. I think Hari can address some of the other causes of head and neck cancer.

Chu I'm curious Clarence, obviously as you mentioned tobacco smoking is really

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a very significant risk factor, but how about if one does not smoke but one has a history of alcohol use?

Sasaki I do not think there is a direct connection between alcohol use alone, but you know the fact is that most people who smoke, drink, and those who drink also smoke so the combination is especially dangerous.

Chu What is the typical age of onset for head and neck cancer?

Sasaki Historically most patients develop this in their 60s, but there is a sub-population of patients who we have seen now who are younger.

Chu And Hari, I gather a new risk factor for developing head and neck cancer is the presence of the human papilloma virus, HPV, is that correct?

Deshpande That is correct, and this appears to be a risk factor mainly for cancers of the oropharynx, and for the listeners these are cancers in the tonsil and the back, what we call the base, of the tongue and cancers in this area have actually increased in incidence significantly since the 1970s. Now it appears that probably more than 60% of these cancers are associated with the virus that you just mentioned, the HPV virus.

Chu It's curious because this virus has been typically linked with the development of cervical cancer, a woman's cancer. How did this develop in terms of why this virus is now playing such an important role, it seems, in the development of head and neck cancer?

Sasaki It is the same subtypes of this virus that seem to cause cancer both in the cervix and the oropharynx. It's not entirely clear what has caused the increased incidence, it's probably a combination of many different factors, such as changes in sexual habits since the 1970s, but I think overall most people would agree that cancers that are associated with the human papilloma virus carry a better prognosis than those that are associated with cigarettes and alcohol.

Chu Clarence, what do we know in terms of gender distribution? Are males more likely to develop head and neck cancer compared to females, or is there an equal distribution?

Sasaki That's also an interesting topic to discuss because 20-25 years ago most patients who developed this were males, typically because most of the males smoked and females did not. Today of course more females are smoking

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and the incidence of head and neck cancer among females is also on the rise, so that gender distribution is shifting.

Chu And when head and neck cancer first presents is it usually localized to the head and neck cancer region?

Sasaki Typically these tumors are localized, at least initially, and as the cancer grows locally it tends to spread and it typically spreads to lymph nodes in the neck region, so that one of the first signs that may tip a doctor or patient off that something is seriously wrong, is a lump in the neck.

Chu What are some of the other symptoms that individuals might present with?

Sasaki Very importantly, patients who have this type of cancer get ear pain, not because the cancer is in the ear but because the cancer in the throat irritates a nerve that also supplies the ear, and we call this referred pain, so ear pain that last for three to four weeks, I think is something that should be investigated further. Patients also may complain of a sore throat, they may experience blood tinged sputum and again may develop a firm neck mass. Some patients also then begin to develop hoarseness if the tumor involves the vocal chords and if it involves, as Hari pointed out, the base of the tongue or hypopharynx, they will develop trouble swallowing.

Chu Hari, if an individual should develop any of these symptoms what should they do next? Who would they go to, to seek medical attention?

Deshpande I would thus recommend that they see their primary physician. Most of the time when people have a sore throat it's from something that is not a cancer and it's probably an infection, but certainly, as Clarence was stating, if these symptoms continue for a long period of time, then they need to be investigated further, especially if they do have risk factors of cigarette smoking or alcohol use. However, after they see their primary physician and they are concerned, then they do need to see an ear, nose and throat surgeon.

Chu When would someone see I guess a more general ENT surgeon as opposed to someone like yourself who is specifically focused on head and neck cancers, so ENT oncology?

Sasaki Again, the pattern of referral is through the general otolaryngologist, general ENT doctor who sees the patient. They may go ahead and get the CAT scan to evaluate the location of the tumor or extent of the disease and they may even take a biopsy. Once it's established that the patient has a head and neck

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cancer, then the referral would be made, for example, to Yale Cancer Center.

Chu Clarence, tell us a little bit about the head and neck cancer program and the multidisciplinary clinic that you are the director of. I know Hari is also a key member of that disease program.

Sasaki Very briefly, the head and neck program started about 10 years ago when the medical school, Yale School of Medicine, and Yale-New Haven Hospital provided what we described as grant money, but it was really funding to promote the development of key clinical programs, and so 10 years ago we developed a group of people interested in this disease and we began to hold what are called head and neck tumor boards where we saw patients jointly as a multidisciplinary group and we currently do this once a week and we see about 10 patients on Monday afternoons. We also have a head and neck study group that meets monthly and we discuss their new avenues of research, or new forums of treatment that are available in this field. Within this group there are surgeons, there are radiation oncologists, medical oncologists like Dr. Deshpande, pathologists, diagnostic radiologists, and rehab physicians. We also involve social services, nutritionists, and nurse coordinators, so it's rather a large group focused on this one disease process.

Chu And it really is important because there are so many potential disciplines that are involved and I guess based on this multidisciplinary approach you can then develop various treatment strategies for an individual patient?

Sasaki That's the idea and the hope is that we would be able to provide patients an unbiased recommendation. We would not be coming from the surgeon alone, but it would involve input from Dr. Deshpande, or from a radiation therapist as well.

Chu I have to say, what is particularly impressive about your multidisciplinary tumor board, or conference, is that patients are actually present and you or one of your colleagues will actually do an examination for the other members of the team to be able to review.

Sasaki That's true and we really want to encourage patient interaction. We want patients to be involved in the choice of treatments.

Chu So a new patient will come to the clinic, be evaluated, see all of the different oncology disciplines, and then you come together to develop a treatment

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plan and then move forward, is that correct?

Sasaki That's correct.

Chu Hari, maybe you can jump in here, what are the different general treatment options for approaching a patient who presents with head and neck cancer?

Deshpande The treatment options depend a lot on where the cancer is. We split the head and neck region into many different sub sites and these include sites such as the oral cavity, the oropharynx and the larynx, and certainly if someone has a cancer on their lips or on the floor of the mouth, then surgery and possibly radiation are definitely the first type of treatment that you would think about. However, if the cancer is more extensive or in a different area of the head and neck then we tend to use more conservative approaches such as radiation or radiation plus chemotherapy and avoid having to perform say a total laryngectomy, which was the treatment that was used in the past before we had very good radiation techniques. Or they have a choice of avoiding a large operation, if we have a good result from that chemotherapy and radiation.

Chu Is there ever any time when you might think of combining chemotherapy with radiation therapy, say prior to surgery?

Deshpande We often combine chemotherapy with radiation after surgery and that is usually when patients have very extensive diseases such as multiple lymph nodes involved or poor features on their pathology such as something that we call extracapsular spread of the lymph nodes once they have been removed and examined under the microscope. Generally, we do not use chemotherapy before an operation because it makes the resulting operation a little bit more difficult. There are certain instances when we do that, but we often use chemotherapy upfront before a definitive radiation approach.

Chu Why don't we go ahead and take a short break for a medical minute and then on the other side of the break we will talk more about the treatment advances that have been made for head and neck cancer. Please stay tuned to learn more information about the treatment of head and neck cancer with my guests this evening Dr. Clarence Sasaki and Hari Deshpande.

*Medical
Minute*

The American Cancer Society estimates that in 2009 there were over 65,000 new cases of melanoma in this country. Over 1000 patients are diagnosed annually in Connecticut alone. While melanoma accounts for only about 4% of skin cancer cases, it causes the most skin cancer deaths. Early

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detection is the key. When detected early, melanoma is easily treated and highly curable. Clinical trials are currently underway at Yale Cancer Center, Connecticut's federally designated comprehensive cancer center, to test innovative new treatments for melanoma. The Specialized Program of Research Excellence and Skin Cancer grant at Yale also known as the SPORE grant will help establish national guidelines on modifying behavior and on prevention as well as identification of new drug targets. This has been a medical minute brought to you as public service by Yale Cancer Center. More information is available at yalecancercenter.org. You are listening to the WNPR Health Forum on the Connecticut Public Radio Network.

Chu Welcome back to Yale Cancer Center Answers. This is Dr. Ed Chu and I am joined here in this studio this evening by my guests Dr. Clarence Sasaki and Hari Deshpande. This evening we are talking about the treatment and evaluation of patients with head and neck cancer and before the break Dr. Deshpande was reviewing the general treatment strategies for approaching patients with head and neck cancer. Clarence, you have been in this field for quite some time, what are some of the key advances that you have seen first hand in treating patients with head and neck cancer?

Sasaki Let me address the surgical ones first and then Hari can speak about the advances made in chemotherapy and also in chemoradiation. In surgery, we have developed methods of removing, for example, a small subset of cancers that we could not remove with the use of laser, so we use a small tube through the mouth to resect, or to remove, these cancers using a CO2 laser. In the past, these tumors were removed by an open technique that required a skin incision and quite a bit of surgical manipulation, and it often resulted in a patient's inability to swallow and even their inability to speak. With the new techniques, function can be spared providing almost the same kind of cure rate that we had seen previously, in fact in some instances, even better.

Chu Also as I understand it, there have been less invasive techniques and approaches to try to, for instance, preserve the voice box.

Sasaki That's true. For example, we can remove tumors of the supraglottitis, which is tissue above the vocal chords, with the use of the laser alone and often times, if successful, and if the margins are clear, no further radiation or chemotherapy is required. Most of these patients make a very swift recovery and actually go home within several days of their surgery. In the past, with open forms of treatment, these patients stayed in the hospital for

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10 days, sometimes even a month before they were able to eat sufficiently to return to their home situation. There have been some other advances made surgically and some of them actually were pioneered here at Yale. For example, what's called a functional neck dissection, means removing lymph nodes affected by cancer in ways that really spare the major blood vessels, nerves, and muscles of the neck. This is a form of operation that was first described in Argentina and it was moved from Argentina to Italy where Professor Ettore Bocca of Milano began to describe its use for head and neck cancer patients on a very wide scale. I happened to be with him in the 1980s when he learned this technique and brought this back to the United States and it has become standard of care here today.

Chu Terrific. Hari, from your perspective what have been some of the significant advances that you have seen on the medical oncology side of things?

Deshpande In terms of chemotherapy, what I think is the biggest change that I have seen in the past few years is people using more what we call, induction or Neoadjuvant chemotherapy, in other words giving chemotherapy as the first treatment for head and neck cancers. In the past, it was felt that this did not really add anything to the treatment, but there have been quite a few studies now that have shown that it is at least as good, if not better, then giving the traditional approach of chemotherapy combined with radiation. This is something that we have used a lot here at Yale and some of the patients who are not considered surgical candidates. One of the other advances, however, is the use of a medicine called cetuximab. This is a medicine that's an antibody against part of the cancer cell that seems to make that cancer cell more susceptible to radiation, and in a very large trial it was compared to giving radiation alone and found to be significantly better. One of the advantages of this medicine is it does not cause nausea or vomiting. It does not make people lose their hair. It's generally easier to tolerate. Its main side effects is a rash, but it does not really affect the radiation side effects and this is a huge advance I think in the treatment of something like head and neck cancer where the side effects from the radiation affecting swallowing and speech can often be quite problematic for patients.

Chu Just like with some of the other cancers that we have discussed on the show here, it sounds like targeted therapy, which cetuximab or Erbitux is, has also come to head and neck cancer.

Sasaki Definitely, and not just in the treatment trying to cure local cancers, but also in the treatment of cancers that have metastasized to different parts of the body.

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Chu Clarence, I think you have already touched on some of these, but for our listeners out there, what are some of the challenges that you have to deal with when you are approaching patients who have head and neck cancer and you are thinking about surgery and the potential complications and sequelae of that treatment?

Sasaki The most important challenge for surgeons it turns out is the establishment of surgical margins. What I mean by that is when a surgeon removes a tumor he thinks that he is completely removing the tumor when in fact, if one checks the microscopic margins with the microscope, there may be tumor cells still present at the margin, and what's even more perplexing is that even when these are cleared from the microscopic, the chance of recurrence is still about 30%. The establishment of true margins is really a major challenge for surgeons and we are hoping that real time molecular methods may be used in the future to establish and to help the surgeon decide what normal tissue is and what cancerous tissue is. We have not reached that stage yet, but we are hoping that the data will be fairly near when we can rely upon these techniques to result in complete removal of a tumor rather than just the visual removal of tumor or microscopic removal of tumor.

Chu It sounds like once surgery is done, the nutritional status of the patient also is an important issue.

Sasaki Sure, because a lot of these patients have cancers near the areas that are required for normal swallowing and when these are disturbed by either disease or by the treatment, they cannot swallow very well. We have a group of rehabilitation specialists who can help us with that, but more often than not patients, especially when they proceed to chemoradiation, require a temporary feeding tube, a feeding gastrostomy tube.

Chu If the voice box has to be removed, or in some way is damaged either because of the cancer or surgery, are there any strategies that your group has taken to try to improve the use of speech?

Sasaki We try not to remove the entire voice box if possible and this medical center has been a leader in this field. Dr. Krishna, who preceded me, had developed many techniques to remove only the cancer, leaving behind the functional part of the larynx, and so we are able to remove, for example, a part of the vocal cord or entire vocal cord leaving the patient with near normal voice. When the entire larynx has to be removed, of course the patient is rendered speechless for awhile, but when the tissues of the neck

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have healed we are able to insert what is called a voice prosthesis, a little tiny plastic button that allows most patients to speak fluently. The speech that derived from this kind of rehabilitation is not normal speech, in the sense that we are used to, but it's sort of a wet gravelly kind of speech, nevertheless very useful in communication.

Chu A kind of subtype of head and neck cancer is a disease called nasopharyngeal cancer, Hari, can you tell us a little bit about what nasopharyngeal cancer is?

Deshpande Nasopharyngeal cancer, as you mentioned, is one of the sub sites of the head and neck and it is unusual in terms of head and neck cancer in that it was originally found in patients who were not so much smokers and drinkers, but often had an association with the virus Epstein-Bar, and it seems to be common in certain parts of the world. It is quite common in the Far East and it may be a different type of nasopharyngeal cancer then we see over here in the United States.

Chu What's interesting is with head and neck cancer, the usual initial approach is surgery, especially early on, and with nasopharyngeal cancer it is somewhat different.

Desphande That's correct. Mainly from where the nasopharynx is, it's less accessible then certain other types of head and neck cancers and the type of cancer seems to be much more sensitive to chemotherapy and radiation. About 20 years ago there was a big study that showed that if you combine chemotherapy and radiation then you get quite good survival results compared to what the standard was, which was radiotherapy alone, and I'd say probably 70 or 80 percent of the time with most of the local nasopharynx cancers we can usually cure these, or keep them at bay for at least 5 years.

Chu I'm just curious for the usual head and neck cancer, for nasopharyngeal cancer, are there any good ways of early detection screening that are currently available?

Sasaki For nasopharynx cancer, I think eventually we may get an approach where we look for things like EBV, and unfortunately, I do not think there is an early approach other then what we have talked about.

Chu How about for the general squamous cell head and neck cancer, is there anything that people are trying to use, trying to develop, or is it still too early?

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Sasaki Here at this medical center Dr. Costa and Dr. Lizardi in the pathology department, are looking at methylation patterns of head and neck cancer and our hope is that we will be able to use this information not only to detect cancers before they start from DNA that may be unstable, but we can hopefully use this to establish surgical margins in real time so that the surgeon can remove all the tumor during the operation rather than having to come back again at a second stage to remove residual disease, so we are hopeful that this method will eventually be able to help us cure this problem.

Chu What about the situation where you have someone who is a heavy smoker, and alcohol user, so obviously has the key risk factors for developing head and neck cancer, are there any current strategies that people have developed, or are trying to develop, to prevent head and neck cancer from actually developing?

Sasaki I don't know of any but Hari has some thoughts about this and we have actually employed them in some of our selected cancer patients.

Deshpande We sometimes will do tests such as CAT scans and MRIs to try and look for early recurrence of the disease, in terms of follow-up of patients who have head and neck cancers, then we follow them very, very closely for the first couple of years, either myself, or Dr. Sasaki, or our colleagues Dr. Son and Dr. Decker will usually end up seeing the patients every one or two months for the first six months or so and then at least every two or three months for the next year or two years, and by doing that we can really pick up the recurrent cancers very early on and we usually present them at back at our tumor board and come up with a treatment plan.

Chu I know for awhile there was great hope that perhaps retinoids might be used to try to prevent head and neck cancer from developing, but it has not panned out yet.

Sasaki No, there were a few big studies looking at retinoids. These are medications that prevent the progression of the lining of the head and neck into a cancer. Unfortunately, they have not panned out as a good treatment.

Chu Clarence and Hari, thank so much for joining me on the show this evening, it's amazing how quickly the time goes by and hopefully next time we will have you both come back and review with us some of the interesting clinical research that's going on in the head and neck cancer group. Thanks again for joining us as guests on Yale Cancer Center Answers. Until next

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week, this is Dr. Ed Chu from Yale Cancer Center wishing you a safe and healthy week.

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