

Yale CANCER
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answers

WNPR Connecticut Public Radio



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Understanding Head and Neck Cancers

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Welcome to Yale Cancer Center Answers with Drs. Ed Chu and Francine Foss, I am Bruce Barber. Dr. Chu is Deputy Director and Chief of Medical Oncology at Yale Cancer Center and he is an internationally recognized expert on colorectal cancer. Dr. Foss is a Professor of Medical Oncology and Dermatology and she is an expert 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 welcomes Dr. Clarence Sasaki and Dr. Hari Deshpande. Dr. Sasaki is the Charles Ohse Professor of Surgery and the head of ENT Surgery at Yale Cancer Center and Dr. Deshpande is an assistant Professor of Medicine in the section of Oncology and he works closely with Dr. Sasaki in the treatment of patients with head and neck cancers.

Chu Hari, can you start off by telling us a little bit about how significant a public health problem head and neck cancer is? Specifically how many patients are being diagnosed with this type of cancer each year?

Deshpande According to the American Cancer Society, there are between 47,000 and 50,000 new cases of head and neck cancer each year. By head and neck cancer, we refer to cancers of what we call the aerodigestive tract, which are the mouth and the throat, but not cancers of the brain, although in the head, they are considered a neuro-oncological disease.

Chu Clarence, it sounds like head and neck cancer encompasses a wide variety of different diagnoses, different tumor types, can you describe for us a little bit about what the different types of cancers that are included are?

Sasaki Yes, as Hari pointed out head and neck cancers usually involve the lips, the mouth, the tongue, tonsil fossa, and the hypopharynx, that is an area closer to the voice box, and of course the voice box. We also include in that group cancers of the sinuses and ear.

Chu Do cancers that arise from different parts of the head and neck region have the same prognosis, same short and long term outcomes, or because of their different anatomic locations, will they have different prognoses?

Sasaki That is a very good question. The most important prognostic factor is where the tumor starts, for example, cancer of the lip carries 95% five-year survival compared to cancers of the base of the tongue, which traditionally are about 15% to 20%, so location of the cancer is the most important prognostic factor.

Chu And is part of the reason for that that if you have a cancer of the lip, it is going to present at an earlier stage than say a tumor that arises in the back of the throat?

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Deshpande Yes, it is discovered earlier because it is upfront and people can see it. Patients can feel it and see it, whereas cancers farther back are more difficult to identify both by the patient and by the physician.

Chu Hari, what do we know in terms of the major risk factors for a patient to develop head and neck cancer? I guess here we are talking more globally, generic head and neck cancer.

Deshpande Traditionally, cigarette smoking and alcohol have been the risk factors for most head and neck cancers, and even now, the majority of the cancers of the head and neck are caused by people who have a heavy smoking and drinking history; however, recently there has been a lot of interest in the human papilloma virus, so HPV as a cause of cancers of the oropharynx, in other words just behind the mouth, and it is suggested that over 60% of all cancers in that area such as tonsils and the base of the tongue are caused by the human papilloma virus.

Chu That is interesting. We have discussed this on previous shows of Yale Cancer Center Answers. It has been pretty well documented that HPV, the human papilloma virus, is a major cause for the development of cervical cancer, so it is kind of interesting that now you are talking about HPV potentially being a major cause for head and neck cancer.

Deshpande That's correct, and in fact, two of the subtypes that cause cervical cancer, that is type 16 and 18, are also associated with head and neck cancers and it is probably a change in sexual practices over the past 30 years that has helped account for this. For instance, the incidence of base of tongue and tonsil cancer has increased every year since the 1970s up until now.

Chu That is very, very interesting. Clarence, what do we know in terms of male to female incidence, and also what age group would be at highest risk for developing head and neck cancer?

Sasaki Traditionally males were more likely to get head and neck cancer because they were the smokers in our society. Over recent years, however, the past 20 years, women have taken up smoking and so their risk factors have also increased, and as Hari just pointed out, younger patients are now presenting with cancers of the tonsil and base of tongue which are frequently related to HPV and not to smoking and drinking.

Chu For say, the head and neck cancers that are presumed secondary to alcohol or tobacco use, what would be the age group that we typically should think about?

Sasaki These are patients in their late 50s or early 60s who present with these types of cancers. 75% of all patients with cancer of the head and neck have a very strong history of tobacco abuse

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and those who actually drink and smoke have not twice the incidence, but actually 15 times the risk, so drinking and smoking is a bad combination.

Chu Is there a defined time for that tobacco and alcohol use, or are even so called social drinkers and casual smokers at increased risk as well?

Sasaki Nobody knows the answer to that, I have patients come and say, “Well I stopped smoking a year ago, how come I got cancer of the tongue?” I think it is generally accepted that it may take 20 years for one of these cancers to develop after one has had a longstanding history of tobacco exposure.

Chu I guess then it is similar to lung cancer, where even if someone has stopped smoking for 15 to 20 years, but has a pretty extensive previous history, the risk for developing lung cancer never disappears and it sounds like it is similar in head and neck cancer.

Deshpande Yes it is.

Chu In Asians I understand there is a specific type of head and neck cancer that is somewhat different than the traditional head and neck cancers that we see here in the United States.

Sasaki Hari, you want to take that?

Deshpande Yes, there is a type of head and neck cancer called nasopharyngeal cancer that is very common in Asian countries, and it seems to be associated with a different virus, the Epstein-Barr virus, EBV, which can cause other cancers such as possibly some types of Hodgkin’s disease.

Chu Do we see this nasopharyngeal cancer frequently here in the United States, or would it be common in Asians or individuals of Asian descent, or people who lived in Asia and then moved over here to the United States?

Deshpande That is a good question. I think it is definitely more prevalent in Asian countries, and I know that we have seen a fair amount in our clinic. Dr. Sasaki tends to see it when it presents.

Sasaki I am of a belief that most of the nasopharyngeal cancer that results among Asians actually occurs in people who live in Southern China. You do not see it as often among Koreans or Japanese, for example, but there seems to be a very high prevalence of this disease in Southern China and in Vietnam, for example. I was just recently in Taiwan, and they have a different kind of cancer there related to betel-nut exposure. It turns out that local folk

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there chew a lot of betel nut, especially among truck drivers, because it is a stimulant and keeps them awake so that they can drive their trucks and they develop a very high rate of cancer of the tongue, lip, and buccal mucosa. When I visited one of the hospitals there, they had an ICU with 27 beds that were completely full of patients who have just undergone surgery for this kind of cancer.

Chu Is this the squamous cell variety of head and neck cancer?

Sasaki It is squamous cell.

Chu Interesting. Can we talk a little bit about how patients, how an individual would present? What are the common symptoms that one should look out for? Hari, maybe you can start off.

Deshpande Usually patients have symptoms that are quite nonspecific, so that is pain in the throat, cough, change in the voice, trouble swallowing, or a hoarse voice, and these are symptoms that often all of us get when we have a cold, so it is quite easy to overlook them. Occasionally, they will notice a lump in the neck caused by an enlarged lymph node and maybe bleeding from the mouth or the throat in which case they are more likely, I think, to seek medical attention.

Chu If individuals should have any of the symptoms that you just mentioned, Hari, what should they do? Who should they go to see as a first step?

Deshpande I would recommend they see their primary care physician. Common things are still common and so it is quite likely that all they have is a simple infection, but the primary care physician, once they are aware of the symptoms, can then follow them. Certainly if they do have a history of heavy cigarette smoking or alcohol use, then they could be referred to someone like Clarence for follow-up if the symptoms do not resolve within a few weeks.

Chu Clarence, you as the ENT surgeon, when would you typically see an individual who has suspicious symptoms?

Sasaki It turns out that the first point of entry for many of the patients who come to see me is through their dentist and through their dental hygienist, who do a quick oral examination, and it's at that time that these lesions are usually picked up, and typically the dentist will then refer to an oral surgeon who performs a biopsy and at that point, they are referred to one of us at Yale Cancer Center. That is the most frequent way in which patients approach.

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- Chu Once the diagnosis of head and neck cancer is made, what is the subsequent process in terms of staging evaluation?
- Sasaki We often ask our patients who come to our head and neck tumor board, where Hari and I will examine them and create a clinical staging system for them, that they also get a chest x-ray at that time and usually are scheduled to have a neck CT scan or some sort or an MRI.
- Chu The purpose of the x-ray and CAT scans is to look at the extent of the disease locally, but also to make sure that it has not spread elsewhere?
- Sasaki Yes that is correct.
- Chu Then if the cancer is deemed to be local in nature, what would be the usual recommendation?
- Sasaki Our recommendation, if the cancer is small, for example, is that it would best be treated by either surgery or radiation therapy. If it is sort of medium sized, Hari, I think you would agree, that we would treat with chemoradiation. If it is very large and advanced, Hari would recommend neoadjuvant, which is induction chemotherapy followed by chemoradiation and using surgery than as salvage. Hari might want to comment on those points.
- Deshpande I completely agree. I think it also depends on the site of the disease, for instance, as was mentioned earlier with cancer of the lips, we rarely use chemotherapy there because it is so well controlled just with surgery and maybe radiotherapy, but cancer of the larynx sometimes involves removal of the voice box. These days, we try and treat with a combination of radiation and chemotherapy.
- Chu In the second part of the show, we are going to focus more on the multidisciplinary care and treatment of patients with head and neck cancer, but for instance, Clarence, if an individual who has a suspicious symptom, maybe a funny looking lesion that is identified by a dentist, is referred to you as the oral surgeon, has a biopsy and the biopsy actually comes out to be negative, so there is no definitive diagnosis of cancer, would that individual be monitored a bit more closely than say an average individual, or what would your suggestions be for that person?
- Sasaki Typically we look at patients who have risk factors a little differently. For example, if the patient is a heavy smoker or drinker, or has had prior radiation exposure of some sort in the remote past, I think these people are more likely to have a head and neck cancer that is lurking undiagnosed, and so we tend to pay more attention on those folks than patients who

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just have a white lesion that is biopsied and comes back negative. The pathologists who work with us are very good about looking at the precancerous changes in the lining of the mouth and throat, and so if we see evidence of dysplasia, we are more likely to follow up with closer and more frequent examinations of that patient.

Chu Maybe for our listeners out there, could you translate what dysplasia means?

Sasaki Dysplasia suggests that the cells seen under the microscope have a disorganized appearance and it is the pathologist's point of view that these cells have a greater propensity for becoming invasive cancer at some point in time, although they are not cancerous at that stage, we consider them to be precancerous.

Chu Why don't we take a medical minute, and at the other side of the break we will talk more about the multidisciplinary treatment of patients with head and neck cancers. You are listening to Yale Cancer Center Answers and I am here this evening with my special guest experts, Dr. Clarence Sasaki and Dr. Hari Deshpande from Yale Cancer Center.

*Medical
Minute*

Here in Connecticut, the American Cancer Society estimates that almost 1000 people will be diagnosed with colorectal cancer every month. The good news is that when detected early, colorectal cancer is easily treated and highly curable. That means that if you are over the age of 50, you should have regular colonoscopies to screen for this disease. In the case of patients that develop colorectal cancer, there are more options than ever before thanks to increased access to advanced therapies and specialized care. Clinical trials are currently underway at federally designated comprehensive cancer centers like the one at Yale to test innovative new treatments for colorectal cancer. Patients enrolled in these trails are given access to medicines not yet approved by the Food and Drug Administration. This has been a medical minute and you will find more information at www.yalecancercenter.org. You are listening to the WNPR Health Forum from Connecticut Public Radio.

Chu Welcome back to Yale Cancer Center Answers. This is Dr. Ed Chu and I am joined by Dr. Clarence Sasaki and Dr. Hari Deshpande from Yale Cancer Center talking about the evaluation, diagnosis, and treatment of head and neck cancers. Before the break, we were talking about trying to identify patients at high risk in follow-up, and Clarence, I was just curious, for colon cancer we have screening colonoscopy; for breast cancer, we have screening mammography; obviously for prostate cancer, we have the serum PSA, is there any similar type of screening evaluation tests for identifying patients with head and neck cancer?

Sasaki Ed, you are talking about markers for this disease, and currently there is no good test, so it

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does require that patients attend their doctors frequently to get examined and follow-up on anything that appears to be suspicious.

Chu So no blood tests and no screening x-ray, CAT scan, of the head and neck region?

Sasaki In my office, if we think that there is a lesion on the tongue or an accessible part of the aerodigestive tract that looks suspicious, I will stain it with Toluidine blue and sometimes that will suggest to us, if the lesion takes up the dye, that it ought to be biopsied, otherwise we simply follow the patients on a three-month period cycle to examine for interval growth and size, or in terms of ulceration of the lesion or increasing pain or bleeding, those kinds of symptoms.

Chu Just to finish up on this aspect of head and neck cancers, Hari what do we know about the genetic bases, are there defined genes that are felt to be the cause for head and neck cancer?

Deshpande That is a scenario of great research right now. As Clarence has already mentioned, we do not have a good screening test, so if we can find out who is at most risk for these diseases that would be very useful. We know there are some tumor suppressor genes that seem to be important in this disease such as one called p53, but we do not know how best to use that information to screen the population at this time.

Chu Getting back to the care and treatment of patients with head and neck cancer, head and neck cancer maybe more than any other disease, involves a multidisciplinary approach. Clarence, could you take us through what that means? What are the different cancer specialties that are involved in your multidisciplinary team?

Sasaki Yes Ed, you know, head and neck cancer is especially devastating because it affects our patients' ability to eat and speak, and after all, speech makes us unique as human beings, and our faces are the signatures of our individuality. So as part of our head and neck team, we involve not only surgeons, plastic and ENT surgeons and oral maxillofacial surgeons, but also medical oncologists and radiation therapists; surgical pathologists are also part of our team. Diagnostic radiologists, of course, play a very important role, but also nutritionists, nursing support, and rehabilitation specialists are all involved in the care of our patients from start to finish.

Chu You may have mentioned this, but a speech pathologist would be important especially if there is any impact on voice or speech.

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- Sasaki Our speech pathologists are experts in cancer care. There are many speech pathologists that specialize in voice and swallowing, but ours is particularly interested in specializing in patients who have had neck cancer, who have been treated and who have disabilities either from the disease or from the treatment.
- Chu Typically, Clarence or Hari, when you see a patient for the first time who is presenting with head and neck cancer, do you tend to see the patients together? Certainly each of the disciplines will be seeing that patient at a different time, but within the confines of the head and neck cancer clinic.
- Sasaki What is unique about the Yale tumor boards is that the patients actually are present at the time of the tumor board. So if a new patient is presented to the tumor board, they will end up seeing all of us at the same time. Occasionally, a patient will come directly to me, to my clinic, but I will usually then present them at this forum called a multidisciplinary tumor board. It is a very good way for all of us to get together and see the patient and their information from their CAT scans as well as pathology and making a decision at that time.
- Chu I would think also, from a patient's perspective, that they must like the fact that all of the specialists who are focusing on this disease are there together, in the same room, evaluating them and then coming up with a treatment plan.
- Sasaki That makes sense, although there are some patients who are intimidated by having half a dozen to a dozen doctors staring at them as they present their case and oftentimes expose their vulnerabilities, so not all patients like that format, but from an overall perspective, it is in the best interest of the patient.
- Chu Take us through the different treatment options, and when surgery, say, might be more appropriate as compared to radiation and/or chemotherapy.
- Sasaki As we indicated previously, if tumors are small and involve structures that can be removed without violating functional status of a patient, we would advise surgery. One of our members is Dr. Son who is a brachytherapist who treats small tumors by inserting radiation seeds into them. There are some risks in this depending on where the tumor is, because radiation can involve destruction of bone as well as the tumor, and so cancers that are close to bone are usually not treated in this way, but more often are recommended to undergo surgical removal.

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- Chu Clarence, when do you consider a lymph node dissection being done along with removal of the primary tumor?
- Sasaki Certainly, if we can feel a lymph node and if it is identifiable on the CAT scan, we would recommend removing that node if we are going to treat the patient with surgery upfront. If there is a statistical likelihood of micrometastasis, that is a small amount of cancer within the lymph nodes based on the statistical basis, then we would also advise what is called a neck dissection.
- Chu And in what situation would you consider just treating with a radiation therapy, either the brachytherapy that you and Dr. Son really have developed over all these years, or external beam radiation therapy?
- Sasaki Most frequently, brachytherapy is not used alone, and it is used as a means of reducing the amount of external beam radiation therapy that is needed to eradicate the cancer. Our hope is that by reducing the amount of external beam, we would spare the patient the often times very debilitating side effect of dry mouth. So brachytherapy, or insertion of radiation seeds, is often combined with external beam radiation or sometimes even chemoradiation.
- Chu Hari, you are our resident medical oncologist this evening, so when would chemotherapy be considered?
- Deshpande We usually give chemotherapy for patients if they have had an operation and have multiple lymph nodes involved with cancer, or they have a large tumor or something on the pathology that suggests that this cancer is more aggressive, meaning it can appear on the microscope that the cancer is trying to break out of the lymph nodes, what we call extracapsular spread, or if the surgeon is not able to remove all of the cancer and the margins of the resection are positive, then we know that those patients are at a very high likelihood of recurrence of that disease so we add chemotherapy to those patients to the radiotherapy. We also give chemotherapy in situations where surgery is not used, such as with larynx cancer or a pharyngeal cancer where we just give chemotherapy and radiotherapy together.
- Chu For tumors that involve the larynx, also known as the voice box, the rationale for that is to try to preserve the voice box and preserve speech.
- Deshpande That is correct, and now these days with the modern chemoradiotherapy techniques we can usually preserve the larynx in about 80% of patients. I would like to also say, however, that

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over the years different types of conservative surgery are being used for larynx cancer which Clarence might be able to talk about a little more.

Sasaki Hari, thank you. Yes, over the past 5 years we have been, at least here in New Haven, very influenced by German surgeons who are able to remove cancers of the voice box endoscopically, that is through a hollow tube. We used the CO2 laser line-of-sight and over the past 5 years we have begun to use this quite effectively here, so we are able to remove small cancers of the larynx using this technique in order to avoid radiation therapy that would cause some dryness and affect the voice.

Chu Those patients would get this special type of refined surgery, and then would they require chemotherapy afterwards or just be followed up very closely?

Sasaki Most often, our hope is to avoid radiation and chemotherapy by removing all of the disease with the laser, and I must say, these patients are often discharged from the hospital either the same day or the next day, so their hospital stay is very much shortened; of course we hope to reduce cost in the process, but most importantly it reduces patient discomfort.

Chu That is fantastic! Clarence, when would you consider having a patient undergo reconstructive surgery once, say, the primary tumor has been removed?

Sasaki It depends on where the tumor was located. Most often our reconstructive surgery is performed at the time of removal of tumor, so for example, if we remove part of a tongue, we would reconstruct that at the time of the removal. Yale has been at the forefront of reconstruction for many, many years, as you know, the so called myocutaneous flap was developed here at Yale and currently we use free flaps that are now used nationwide and worldwide to reconstruct areas that have been removed at the time of surgery.

Chu It is amazing how quickly the time has gone, in the 30 seconds we have left Hari, are there any clinical trials or new treatment strategies that you and Dr. Sasaki and the head and neck cancer team are developing or currently conducting at Yale Cancer Center?

Deshpande We are looking into starting a clinical trial of a treatment that is now FDA approved using a new medicine called cetuximab, which is an antibody against a growth factor on the cancer cells in combination with chemotherapy, and looking at how this affects the individual chemotherapy agents. We are also doing a lot of work in the basic science side of the head and neck cancer group and hopefully some of these studies will translate into new treatments or new ways of looking at the squamous cancers.

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Chu Great, you have been listening to Yale Cancer Center Answers and I would like to thank my guest experts, Dr. Clarence Sasaki and Dr. Hari Deshpande, for joining me this evening. From Yale Cancer Center, this is Ed Chu wishing you a safe and healthy week.

If you have any questions or would like to share your comments, go to yalecancercenter.org where you can also subscribe to our podcast and find written transcripts of past programs. I am Bruce Barber and you are listening to the WNPR Health Forum from Connecticut Public Radio.