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00:00.000 --> 00:13.400 Support for Yale Cancer Answers comes from AstraZeneca, committed to researching innovative treatments to address unmet needs in head and neck cancer. Learn more at [astrazeneca-us.com](http://astrazeneca-us.com).

00:13.400 --> 00:39.900 Welcome to Yale Cancer Answers with doctors Anees Chagpar and Steven Gore. Yale Cancer Answers features the latest information on cancer care by welcoming oncologists and specialists who are on the forefront of the battle to fight cancer. This week, it is a conversation about head and neck cancer with Dr. Aarti Bhati. Dr. Bhati is an Assistant Professor of Medicine and Medical Oncology at Yale School of Medicine, where Dr. Chagpar is a Professor of Surgery.

00:39.900 --> 00:51.800 <vChagpar>Why don't we start with talking a little bit about head and neck cancers, what really does that encompass? What kinds of cancers do you see, because the head and neck seems to be a fairly large area:?

00:51.800 --> 01:16.200 <vBhati>It is. We actually treat cancers arising in all different parts of the head and neck region that includes the nose, the lip, the tongue, the oral cavity, the back of the throat, the tonsils, salivary glands, sinuses, cancers involving the voice box and even the skin of the head and neck region. So, it really is a few different kind of cancers.

01:16.200 --> 01:31.900 <vChagpar> And it seems to me that we don't really talk a lot about any one of those individual cancers. I mean, we talk about breast cancer and colon cancer and lung cancer and prostate cancer, how common are these head and neck cancers?

01:31.900 --> 02:19.200 <vBhati>A lot less common than the breast and the colon and the lung that you mentioned. We diagnose about 70,000 new patients annually in the United States. It is a lot more common and a much bigger burden out in the East where a lot more of these cancers are diagnosed. For instance, it is the #1 killer in Southeast Asia where we have a lot more oral tobacco chewing that is cultural over there. In the United States, it is about 70,000 new cases and we do have a high cure rate. About 65-70% of our cancers do get cured. And I think that accounts for why you do not hear a lot of it in the media. It is not among the most fatal cancers.

02:19.200 --> 02:43.300 <vChagpar>That brings up a couple of really good points. Tell us a little bit about the risk factors. I mean, when you said that it is far more prevalent in Southeast Asia with oral tobacco, it makes me think that oral tobacco is one of the risk factors for developing these cancers. Tell us more about the risk factors that may be prevalent not only in Southeast Asia, but also here.

02:43.300 --> 03:39.900 <vBhati>Historically most of these cancers were associated with tobacco and alcohol use, excessive use of tobacco and alcohol. In recent decades, we are seeing an emerging incidence of HPV associated head

and neck cancers. So, human papillomavirus is the same virus that causes cervical cancer in women and is increasingly causing oropharyngeal cancers, the cancers involving the tonsils and the back of the throat in younger men typically. A lot of these patients tend to have never smoked or never have used alcohol excessively, but do have HPV in their tumors, so that is an association with the virus. Fortunately, these tumors, the ones that are HPV associated, tend to respond better to treatment and have an overall better prognosis than the historic tobacco and alcohol-related tumors.

03:39.900 --> 04:05.300 <vChagpar>So, aside from tobacco and alcohol and HPV, are there other risk factors? So, if somebody says, look I have never smoked, I don't drink and HPV is a sexually transmitted disease and I have not had oral sex, are they pretty much immune to head and neck cancers or are there still other etiologic agents that might be at play?

04:05.300 --> 04:53.300 <vBhati>There are other less common factors. These 3 are by far the commonest etiologies for head and neck cancers, but patients who have had solid organ or bone marrow transplants tend to be on long-term chronic immunosuppression and that is a risk factor for developing squamous cell cancers of the head and neck region, even of the skin. And we also see some de Novo mutations in patients who have none of these risks factors, commonly this happens to be of the TP53 gene, a mutation in that gene turns off the normal tumor suppression response of the body and we can see head and neck cancers form in that situation as well.

04:53.300 --> 05:14.300 <vChagpar>So, different etiologic agents can cause it? But, it seems to me that the most common ones are really things that are within our control. Now, just to clarify because I am sure a lot of our listeners are thinking, okay how much is too much alcohol? What would you say?

05:14.300 --> 05:58.600 <vBhati>Every drink is too much. Recently, there was a study which was widely publicized in the media too where even 1 drink of alcohol has an impact on our life spans and that could be due to multiple factors, not just forming head and neck cancers. In general though, we define too much drinking as more than 3 drinks at a time for men and 2 drinks at a time for women. That has been the historic definition, but we do see cancers form in patients who have not drank even that much or smoked that much. We have many patients who have had maybe 5-pack years of tobacco exposure in their lifetime and still form these head and neck cancers. So, I would say even 1 cigarette is too much and 1 drink is too much.

05:58.600 --> 06:12.800 <vChagpar> Okay. But smoking and drinking are things that are within our control. HPV, it seems that that also might be within our control, at least in part, is that right?

06:12.800 --> 07:22.500 <vBhati>In large part, yes. We have a very effective HPV vaccine now. It provides protection against 9 strains of the virus and is very effective at preventing cancers of the cervix for women, cancers of the head and neck region and the anogenital region for men and women both. It is FDA

approved. The American Cancer Society's, FDA and CDC recommendations are 2 shots of the vaccine starting at ages 11 to 12 years. Men continue to get vaccinated until the age of 21 years and women can get vaccinated until the age of 26. These were the initial guidelines, but as of late last year, the FDA has expanded its use of this vaccine and the age cutoff is now 45 years. So, anyone who missed the initial age cutoff of the 21 and 26 years is eligible to get the vaccine if they are within the 45-year cutoff. So, we recommend anyone who is eligible for the vaccine to go call their PCP and set up an appointment and get your 2 shots of the vaccine because it is a big bang for your buck.

07:22.500 --> 07:39.500 <vChagpar>I really want to unpack that a little bit more just because there has been a lot in the media, in the lay press about vaccines and problems with vaccines. Have we seen any side effects to the HPV vaccine that might be untoward?

07:39.500 --> 08:20.700 <vBhati>It is among the newer vaccines. I cannot say that I have seen anything specific against the HPV vaccine, at least in discussions with people whose kids were vaccinated or my own patients, some of whom went on to get vaccinated because they were young and within the 45-year cutoff in the past few months now, but in general, you know I have kids who have gotten other vaccines and I have not had any issues and obviously the vast majority of people who get vaccinated against preventable diseases do not develop any issues with vaccines, and they offer a lot of protection against a lot of lethal diseases, so it is something that is valuable.

08:20.700 --> 08:31.500 <vChagpar>And you mentioned that your patients had gotten the HPV vaccine, so can you get vaccinated even after you have had a head and neck cancer?

08:31.500 --> 09:08.200 <vBhati>Absolutely, there is no downside to it. Most of the head and neck cancers are caused by the HPV-16 strain, that is one strain of the virus, the vaccine has 9 strains. So, it would still offer protection against benign and malignant forms of the virus, which could cause things like genital warts, anal cancers, penile cancers for men, cervical cancer for women, so absolutely, you have had the cancer which was caused by 1 strain of the virus, but you could still go on and get the vaccine and get protected against other strains of the virus.

09:08.200 --> 09:48.700 <vChagpar>So, if it is fairly innocuous, in the sense that it does not have a lot of side effects and there is really not a lot of downsides and it is protective against many different kinds of cancers as well as benign conditions, why the age cutoff? Say you have a patient or an individual in your practice or one of our listeners is listening and is 47 years old, so just outside of the cutoff, but would be denied the vaccine, or if the guidelines had changed just 2 years earlier may have been eligible, what is the rationale behind that age cutoff?

09:48.700 --> 10:44.500 <vBhati>The vaccine is going to be effective only if you have not been exposed to the strain of the virus. So, for instance, if you

were sexually active in your teen years and you acquired a particular strain of the virus, you went onto get the vaccine, it is not going to offer you protection against that strain because your body has already been exposed to that virus. So, the thinking behind those guidelines was that the older you get, the more likely you are going to acquire different strains of the virus, which is out floating in the community and the less beneficial the vaccine is going to be to you. So, to make the most financial sense out of it I guess, there has been an age cutoff. If you wanted to go get the vaccine though beyond the 45-year age cutoff, you could definitely get it, the only thing is the insurance would not pay for it.

10:44.500 --> 11:20.000 <vChagpar>Interesting. So, let us move a little bit from prevention to treatment because the other thing that you mentioned, which I thought was really heart-warming to hear and something that we do not always hear on this show is how treatable head and neck cancers are. Talk to us a little bit more about that and why that is. Is it because we can find these cancers really early, is it because they are really indolent, why is it that we are so successful in head and neck cancers but not so successful in other cancers?

11:20.000 --> 12:30.200 <vBhati>As you can imagine, the head and neck is a very tight compartment. We have a lot of critical structures squeezed into a small area relative to the other parts of our body, like our chest or abdomen. So, any symptoms that we have developing in the head and neck region tend to manifest early and people tend to notice early. So, for instance, if you have a lingering mouth sore, you are going to think, gee this has been around for a little while now and I need to go get it checked out. Or if you have had a sore throat or a hoarse voice or difficulty swallowing that is bothersome, that is lingering longer than a typical cold would again those are things you are going to go get them checked out earlier rather than later and that is the reason most patients present to us with symptoms early on and in a stage where we can still attempt cure. So, 90% of head and neck cancers actually present at a curable stage, only 10% are indolent and have spread before they present to us, and that accounts for the higher cure rate we see with head and neck cancers.

12:30.200 --> 13:11.800 <vChagpar>It sounds to me like a lot of those symptoms are symptoms that you could have, and if you are doctor-phobic and I know some people who are, in fact I might be one of them, you are going to avoid going to the doctor even if you have got a little bit of a sore throat, you are going to say well you know I talk too much and I have been running too much and it might be a flare-up of my asthma and you know I had a cold last week and I can think of a million excuses, trust me. So, how is it that we can differentiate all of those symptoms from, now I really ought to get this checked out?

13:11.800 --> 13:38.200 <vBhati>Yes. A lot of patients actually do neglect their symptoms for a while, but it is when they do not go away over many weeks, many months and that is when they go get it checked out. Sometimes, they will also present with neck lumps because the cancers tend to spread early to regions in the neck, to glands in the neck and that is when people go get

them checked out and that is how they get picked up on and worked up for their symptoms.

13:38.200 --> 13:51.100 <vChagpar>You certainly cannot avoid the doctor forever when you have got those symptoms. We are going to take a short break for a medical minute, but please stay tuned to learn more about head and neck cancers with my guest, Dr. Aarti Bhati.

13:51.100 --> 14:06.500 Medical Minute Support for Yale Cancer Answers comes from AstraZeneca, a global biopharmaceutical company that is committed to bringing immuno-oncology to people living with earlier stages of cancer. Learn more at [astrazeneca-us.com](http://astrazeneca-us.com).

14:06.500 --> 14:58.800 This is a medical minute about breast cancer. The most common cancer in women. In Connecticut alone, approximately 3000 women will be diagnosed with breast cancer this year, but thanks to earlier detection, noninvasive treatments and novel therapies, there are more options for patients to fight breast cancer than ever before. Women should schedule a baseline mammogram beginning at age 40 or earlier if they have risk factors associated with breast cancer. Digital breast tomosynthesis or 3D mammography is transforming breast screening by significantly reducing unnecessary procedures while picking up more cancers and eliminating some of the fear and anxiety many women experience. More information is available at [YaleCancerCenter.org](http://YaleCancerCenter.org). You are listening to Connecticut Public Radio.

14:58.800 --> 15:35.400 <vChagpar>Welcome back to Yale Cancer Answers. This is Dr. Anees Chagpar, and I am joined tonight by my guest, Dr. Aarti Bhati. We are talking about medical advances for patients with head and neck cancer and right before the break, Aarti was telling us about how about 70,000 people in the United States will be diagnosed with head and neck cancers but the vast majority of these presented in early stage when they are curable. Now, Aarti, I had a question about that. You used the word curable, that is not a word we use a lot in cancer. Do you really mean cure like gone forever or like never to come back again?

15:35.400 --> 15:59.000 <vBhati>Right. So, that is the advantage of an early diagnosis. Our all comers cure rate is about 65% at 5 years, meaning that 65% of people diagnosed with any stage of head and neck cancer and treated for it, 5 years out will have no evidence of the disease. So, yes it is a potentially curable disease.

15:59.000 --> 16:38.300 <vChagpar>And so, part of that really comes with early detection, and while we talked before the break about knowing symptoms - if you have a nosebleed or a mouth sore, hoarseness or a neck lump or you have difficulty swallowing, you should go and see your doctor. Are there things that we can do even before we have symptoms. I know that there are some screening programs and clinics and so on, should people go to those screening things and if so, should you do it just whenever there happens to be a health

fair in your neighborhood? Or, are these things that you should be doing on a every X period of time basis?

16:38.300 --> 17:32.800 <vBhati>So, anyone who is high risk. If you have had an extensive alcohol or tobacco exposure or if you have had a partner who has had HPV detected, you should absolutely go get checked out at a frequent interval. So, we have screening fairs that our team carries out at the main campus at Yale as well as in the community, they are pretty often, they are at least a couple times a year and even if you went and got yourself checked out there, that would be adequate screening a couple times a year. There is not an established guideline on how often you need to get screened but as long as you keep a careful check on things and your primary care or your ENT or your dentist is evaluating you, that should be sufficient protection. The number one thing though is to quit the high-risk behavior, so you want to quit smoking, quit drinking if you think you have been doing too much of it.

17:32.800 --> 17:37.800 <vChagpar>Yeah. The issue is that people who often are doing too much of it do not think that it is too much.

17:37.800 --> 17:41.200 <vBhati>That's true.

17:41.200 --> 18:08.000 <vChagpar> And those are difficult habits to quit. Quitting smoking is one of the most difficult things ever and drinking is so much a part of the social milieu in our society. Do you have any tips for what you tell patients in terms of that? Do you tell them to aim for abstinence totally and are there things that they can do or programs that might be helpful that are out there in the community?

18:08.000 --> 19:10.500 <vBhati>So, we have a very active smoking cessation program at Yale and they provide a lot of biofeedback mechanisms, meaning they take points in your own health chart that may be attributable to smoking and alcohol and this is even before cancer is ever formed. Before you actually develop a cancer and they show you how after you abstain from the high-risk behavior, from either the smoking or the alcohol for a certain period of time, how these points in your chart, in your health chart are getting better. That is motivation for a lot of patients I know, that keeps them able to refrain from going back to smoking and drinking. Outside of that, I know it is hard to completely quit alcohol, I mean I drink so it is hard for me to say you should never drink, but I do think we need to know our limitations and stick to those if we want to live a long and healthy life.

19:10.500--> 19:48.400 <vChagpar>Yeah. You know the biofeedback is really interesting to me. I know that certainly this is something that we know cognitively right. You study hard, you get a good grade on a test, you then want to study hard so that you can get the next good grade. You are eating well and exercising, you see the scale moving in the right direction, you think yay, I am losing weight and so you want to diet and exercise more. So, healthy feedback. What are the things that they look at in our chart, in our medical record that

can correlate with smoking and alcohol? Like, do they look at blood tests or is it your blood pressure?

19:48.400 --> 20:07.100 <vBhati>Yes. It could be things like your blood pressure, it could be an impact on your cholesterol levels, it could be impact on inflammatory markers, so telling us that your body is so inflamed from all the tobacco and alcohol it has been exposed to and showing us how those markers continue to fall as you stay away from the alcohol and the tobacco.

20:07.100 --> 20:37.000 <vChagpar>I think that that is so incredibly powerful, especially when you can see it in real time because it must be so hard to tell people quit smoking, quit drinking and then maybe you know, decades and decades down the line you will have reduced your risk of developing head and neck cancer and I know many people might say yeah but I might not have ever gotten head and neck cancer anyways, but when you can actually see it making a tangible effect on a marker, I think that would be so incredibly powerful.

20:37.000 --> 20:41.500 <vBhati>It is more immediate gratification for your efforts.

20:41.500 --> 21:30.400 <vChagpar>Let's talk a little bit about treatment. We talked about prevention and risk factors, we talked about screening and finding these cancers early, but what happens when somebody actually does present. Somebody comes, I had a friend who called me up and said she was having these nosebleeds and they just did not stop. And so, I said well, you probably should go and have that checked out and she did, and it turned out that she had a cancer in her nasal sinus. So, tell us a little bit more about how that diagnosis is made, that or any head and neck cancer and then the treatment regimens and how effective they are.

21:30.400 --> 23:33.600 <vBhati>The diagnosis for any cancer really is initially made by a biopsy, so if you present with a nosebleed like in the case of your friend, she probably went to an ENT and had a little scope, which is like a little tube being passed up the nose and they probably found a suspicious lesion in the sinus. They take a little needle and they take a sample of that mass and then a pathologist will look at it under the microscope, and if he finds cancer cells, try to identify where that cancer might have originated from and in that case, it probably would have originated from the sinus because remember cancers can go from another site to other sites as well. So, we want to make sure that we are finding a cancer that has started there and has not spread from somewhere else. So, that process is called a biopsy and any cancer gets diagnosed only after a biopsy. Treatment of the head and neck cancers depend on what stage it is and without going into the nitty gritty, it really depends on what size it is and has it already travelled to nodes, to glands in the neck region. If it is a small primary tumor, which has not yet travelled anywhere else, we would typically try to take it out with surgery or we will radiate it at that spot. If it has already travelled to neck nodes, we would still use surgery and radiation, but we will typically also involve chemotherapy at that point, typically in combination with

the radiation. So, it is more of a multi-modality approach. And then, cure rates depend on the stage. So, if you have a very early stage tumor which has not yet travelled to neck nodes, cure rates are as high as about 80%. The cure rates are driven down a little bit if you have disease in the neck nodes, at which point it is about 50-60%, and then lower if disease has already travelled elsewhere, like to distant sites like the lungs or the abdomen.

23:33.600 --> 24:04.700 <vChagpar>I think that one good thing for listeners to hone in on, is even if this has spread outside of one small little area, so let us say it has gone to a neck node, you can still be totally treated with this with a reasonably good cure rate. The number of patients I have and I do not do head and neck cancers, I do breast cancer, but who get very scared if the cancer has gone to a lymph node, but actually the survival rates are really good with current therapies.

24:04.700 --> 24:36.100 <vBhati>Absolutely. Another point to note is that when we stage these cancers in the head and neck region, if you have disease that has travelled to neck nodes, we might call it as stage IV, but a stage IV in head and neck cancer is not the same as a stage IV in other cancer types where we are talking about distant disease that is now not curable. So, I always tell my patients, do not be afraid of the number, we call it a stage IV but we are still going to try and cure this and your odds for cure actually pretty high.

24:36.100 --> 24:46.700 <vChagpar> That is a great point because I think a lot of people when they hear stage IV, they think distant metastatic disease, cancer all over my body, game over. But that does not seem to be the case in head and neck cancer.

24:46.700 --> 24:49.200 <vBhati>Absolutely not. It does not apply for head and neck.

24:49.200 --> 25:33.900 <vChagpar> And the other thing, getting back to the case of my friend, they had a poorly differentiated sinonasal cancer. And it was in a location where while initially some people were thinking about doing surgery, they went and got a second opinion and they said, well you know given its location and given its features, chemoradiation may be better. They ended up having the chemoradiation and the thing disappeared completely. So, talk a little bit about the effectiveness of multi-modality care even in unresectable disease and whether you think that getting a second opinion is worthwhile.

25:33.900 --> 27:16.300 <vBhati>Multi-modality care is really the back bone of treating the head and neck cancer. So, in instances where we cannot do surgery, like I suspect in that case, the tumor might have been very close to the eye and taking it out might have involved taking out the eye. In those instances, we do try to save the eye because that is a critical organ and we treat it with chemotherapy, follow it with chemoradiation. So, we use other modalities then to try and spare people from getting surgery. A similar situation applies in the case of voice box tumors where initially many, many decades ago, the standard treatment was to take the voice box out, but then it rendered people voiceless



for life and that is not a situation most of us would want to live with. So, we developed using concurrent chemotherapy and radiation and figured that about 70% of these patients will be cured without ever needing surgery. So, that was a significant advance. So, multi-modality therapy is absolutely key to treating these cancers. Getting a second opinion is also something that is very personal I think. So, if someone is very comfortable with their care team and feels like they would not want to go anywhere else and they trust their team, I do not feel like getting a second opinion, that is totally fine. But then in instances where decisions are tricky, if you are not comfortable or do not have that trust in your team and you feel like you would a second opinion, absolutely. I always recommend my patients to do what makes them feel more comfortable because ultimately it is the life-changing diagnosis and treatment.

27:16.300 --> 28:15.700 <vChagpar>I think the other thing about second opinions is it is not so much not feeling comfortable with your team, although certainly that would be a big red flag if you do not feel comfortable with your care team, get a second opinion. But even if you do, sometimes it is nice to go to a different center, a larger center and academic center, whatever just to see whether everybody is recommending the same kinds of things and also to think about whether there may be clinical trials that may be offered where those may not be available in a local setting, in a smaller center. Talk a little bit about advances that you have seen over the last few years in terms of treatment for head and neck cancers and any interesting or novel modalities that are on the horizon, any clinical trials that are interesting that people may have not been aware of a few years ago.

28:15.700 --> 29:10.700 <vBhati>There have been several advances, not just in the development of new drugs but also in newer surgical and radiation techniques. So, we now have minimally invasive robotic surgery as I am sure you know and that has drastically down on recovery times for patients who need surgery for head and neck cancers. We have also refined radiation techniques, so you know the fields are a lot smaller now than they used to be many years ago and people have lesser issues with swallowing and speech after they have gotten treatment for head and neck cancer. On the medical side of things, we have a lot of newer drugs now, so targeted drugs - cetuximab immunotherapies, they have all been recently approved and we have upcoming trials which are looking at combining different drugs and testing newer drugs, targeted drugs all with the hope of improving survival for our patients.

29:10.700 --> 29:36.400 Dr. Aarti Bhati is an Assistant Professor of Medicine and Medical Oncology at Yale School of Medicine. If you have questions, the address is canceranswers@yale.edu and past editions of the program are available in audio and written form at YaleCancerCenter.org. We hope you will join us next week to learn more about the fight against cancer here on Connecticut Public Radio.