Thyroid Cancer: A Growing Problem For Young Women
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Introduction

Andrew Schorr:
Thyroid cancer is one of the few cancers that has been increasing in incidence over recent years. It occurs in all age groups from children through seniors. When this cancer occurs in young women or pregnant women, it certainly raises concern. Coming up next Dr. Jose Dutra will discuss thyroid cancer in women. It’s all next on Patient Power.

Hello and welcome to Patient Power sponsored by Northwestern Memorial Hospital. I’m Andrew Schorr. And every time we do a program we talk about a significant health concern and connect you with a leading Northwestern Memorial expert. In this program we’re going to talk about thyroid cancer, but particularly we’re going to talk about thyroid cancer, a growing problem for young women. And we’re going to understand it with someone who talks to women about it all the time, the director of the thyroid surgical clinic at Northwestern Memorial, and that’s Dr. Jose Dutra. He’s also an assistant professor in the department of otolaryngology and head and neck surgery at Northwestern's Feinberg School of Medicine.

Thyroid Cancer on the Rise

Dr. Dutra, thank you so much for being with us. So let’s talk about this growing incidence. Do we have any idea why it’s increasing?

Dr. Dutra:
Well, the incidence of thyroid cancer has been rising in the United States and in many other countries over the past two or three decades. The American Cancer Society estimated that about 37,400 new cases of thyroid cancer were diagnosed in 2008, and 75 percent of these cancers affect females, which makes thyroid cancer the sixth most common cancer among women. So here in Illinois, the thyroid cancer incidence in women has actually surpassed the melanoma cases and is now actually the fifth most common cancer affecting females. So just for you to have an idea in terms of number, in 2002, 20,000 new cases of thyroid cancer were diagnosed in the United States. Now, in 2008, the last number that we have, about 37,400 cases were diagnosed.

Andrew Schorr:
That's a big increase.
Dr. Dutra:
It's almost double.

Andrew Schorr:
Wow. That's scary. But we don't really know why or why more in females.

Dr. Dutra:
The increased thyroid cancer incidence is in part due to improved detection, and this is caused by the wide availability of imaging studies in most clinical settings. So a lot of these tumors have been incidentally discovered during a routine imaging evaluation of the chest, the head or neck for an unrelated condition. An example for you. A patient, for instance, is brought to the emergency room following a car accident. There he receives an MRI or a CT scan of the neck for evaluation of a potential cervical spine injury, and a nonpalpable thyroid lump is detected. Another example, an ultrasound of the carotid artery is recommended for evaluation of a patient with syncope assaults, and the thyroid growth is again incidentally discovered.

Andrew Schorr:
Where they've been fainting, syncope, where they've been fainting.

Detection and Diagnosis

Dr. Dutra:
Yes. So another typical example we've seen in our office all the time is the patient with severe headaches who obtains an MRI of the head and neck for evaluation of the cause of this headache, and again the thyroid nodule is discovered.

Andrew Schorr:
All right. Let's talk about that. So you spot these little nodules, and let me see if I get it right. So the thyroid is this small gland just sort of around your Adam's apple, isn't it?

Dr. Dutra:
Yes.

Andrew Schorr:
And it's really very small, but it produces some important hormones that we'll talk about. So it's an important thing, and certainly if there's a nodule or just thyroid disease if there are problems it can have a big effect.

So let's talk about younger women. Let's zero in on that, and I have had personal experience with that, not me having the condition, but I've worked with two young women producers in their 20s over my years, including the woman, Jamie, who is producing this program with us today, and in both cases they had these nodules discovered in their 20s and then needed surgery, and then we'll talk about radiation as well. So here are younger women, and they wonder, well, gee, what does this
mean for my life and if it can be cured, but I've had radiation, what about pregnancy. So let's zero in on that. For a younger woman, when it's discovered, and maybe incidentally, like you said, what's the prognosis that they can go on with a full life?

Dr. Dutra:
A vast majority or at least a good part of these new thyroid cancers that have been discovered incidentally or with the patient doing a self exam of their neck, because of the growing incidence of thyroid cancer, people are talking about more of this problem, many thyroid nodules now are being discovered during a routine physical examination either by an internist or by a dentist or by a patient that just started to self examine the neck, like many internists are recommending, and feel a little lump. Men usually will feel the lump when they are shaving. Females will feel the lump when they examine their neck looking for a palpable thing--

Andrew Schorr:
All our listeners are like feeling their neck right now.

Dr. Dutra:
It happens very frequently. When you talk to an audience about thyroid nodule all of a sudden everybody in the audience is checking their neck.

Andrew Schorr:
Okay. So if they feel something, and this is early on, what might lie ahead? And is this going to change their life, like women worry about breast cancer, god forbid, you were diagnosed with advanced colon cancer, things like that?

Dr. Dutra:
Well, this higher incidence of thyroid cancer is due primarily to increases in the number of papillary thyroid carcinoma, which is the most common tumor in the salivary gland and quite benign to a certain extent. And this increase has been most rapid amongst females, but for localized disease in the small tumor, which have a very good prognosis. So if a thyroid nodule is found in a patient's neck then the first thing to do is basically to detect if this nodule is malignant or if it is benign. In 90 to 95 percent of all thyroid nodules, this lump in the thyroid gland, is benign. They are not cancerous. So if the patient discovers, and many people will be listening to your program and a few will certainly find a lump in their neck, in their thyroid, they shouldn't panic because 90 to 95 percent of these growths in the thyroid are benign tumors, noncancerous.

Andrew Schorr:
All right. Let me go over that again just to make sure we all understand. So we're all here listening to you, we're feeling our neck and the front of our neck. If somebody felt a lump, 90 percent or more of the time it is a growth that will be removed but it's not a cancer. But also, though, isn't it true, if I heard you right, that the most common form of thyroid cancer is the papillary form, which is usually not an aggressive form of cancer, right?
Dr. Dutra:
That's correct.

Andrew Schorr:
Okay. So in either case the news is usually quite good, and if it's less good it usually is not terrible news.

Dr. Dutra:
No. Actually, very few patients will die from thyroid cancer, especially if the diagnosis is made in a younger age.

Andrew Schorr:
All right. So you have a biopsy to find out are these cells cancerous.

Dr. Dutra:
The first thing the patient should do is go to their primary care physician. Their primary care physician will confirm that there is a growth in the thyroid gland, so he or she will probably be referred to a specialist, an endocrinologist or a head and neck surgeon or a surgeon with experience in thyroid surgery, and an ultrasound of the neck will be performed. This is an important step because a lot of times patients will present with one nodule that is clinically detected but the ultrasound will reveal other nodules, and that's a very common scenario. So a lot of my patients, about 20 to 30 percent of the patients actually after performing an ultrasound to evaluate for additional nodules, we discover other nodules. And sometimes the index nodule, the nodule that has been growing, is not the suspicious one. A smaller one hidden behind the gland is the one that we probably should biopsy.

So the first thing is to obtain an ultrasound of the neck of the thyroid gland, not only to confirm the presence of this nodule but also to measure the nodule to see how big the nodule is, and this is important if you decide to not operate or if the nodule is clearly benign, the patient will need to follow up. So another ultrasound will be performed in six months and then in one year so we keep track of the size of the nodule and we keep track of what is happening in other sites, in other areas of the gland.

The second important thing is when you look at a thyroid nodule through an ultrasound machine there are features that are suggested for malignancy and features that are suggested for benign process. So these will determine what will be the next step, which in general is a needle aspiration biopsy ultrasound.

Andrew Schorr:
Okay. And the needle biopsy is more typical if the features that you see on ultrasound make you concerned that it is cancerous.
Dr. Dutra:
The American Thyroid Association and the American Association of Clinical Endocrinologists have set up some guidelines for physicians in general explaining or trying to address the issue of which nodules should be biopsied. So this is a complex problem because thyroid nodules are very, very common and you don't want to biopsy every thyroid nodule, especially the small ones that are not suggestive or not that cancer is then appearing.

Treatment Options

Andrew Schorr:
Well, let's go on. So you when you do a biopsy if it turns out to be thyroid cancer, most typically the papillary form, then let's say in the case of the women I know and we're talking about increasingly, women and young women, that the next step would be to have a surgery and cut it out?

Dr. Dutra:
Well, the next step would be to evaluate initially with some sort of image, most of the time another ultrasound, to evaluate for the presence of a local or regional metastases because papillary thyroid carcinoma tends to travel, to metastasize to lymph nodes in the neck fairly early in the course of the disease. So before you go ahead and operate and remove the thyroid you want to make sure that there's no disease somewhere else in the neck that should be addressed and must be addressed at the time that the thyroid would be removed.

So the next step is to evaluate the neck by an ultrasound and MRI, make sure that there's no lymph nodes involved, and if they are we probably need to biopsy those lymph nodes too prior to surgery. So when you have the entire neck evaluated then the patient is taken to the operating room for a total thyroidectomy most of the time and removal of the associated lymph nodes, lymph nodes that are around the area.

Andrew Schorr:
So they have that procedure. Now, I know that radiation is often used, maybe always used afterwards, sort of a radioactive iodine. Tell us about that. You know, radiation over the years, that can be scary. So what is the purpose of the radiation? Is it always used? And are there side effects that go along with that?

Dr. Dutra:
The radioiodine treatment is usually offered to about 70 to 75 percent of the patients after complete removal of the thyroid gland and suspicion of positive lymph nodes. So radioiodine treatment has been used less and less for small, localized disease that hasn't metastasized to the lymph nodes in patients that are young and with a good prognosis. So not everybody these days get radioiodine. So radioiodine is a form of radiation therapy that is used to ablate thyroid cells and is usually recommended to eliminate any rest of thyroid tissue in the neck and to
eliminate metastasized disease. So we know that a combination of surgery followed by radiation therapy in many cases seems to reduce the chance of tumor recurrence. That is why it is used.

Andrew Schorr:
All right. So there's a young woman, and Jamie, our producer, had exactly this, so she had surgery, and then she had the radioactive iodine, so that gets rid of all thyroid. So, first of all, we should note that someone, and Jamie would say this too, you go on then and you will need to take some medication for the rest of your life to make up for the function of thyroid gland that has now been away, right?

Dr. Dutra:
It is necessary to replace the function of the thyroid gland that has been surgically removed but also to suppress the TSH. The TSH, it means thyroid stimulating hormone. The thyroid stimulating hormone is produced in the pituitary gland in the brain to stimulate thyroid cells to produce thyroid hormone, but it also stimulates the growth of thyroid cancer. So it's important to know that patients take thyroid hormone suppressive therapy not only to replace the function of the thyroid gland but also to reduce the levels of TSH, which are well known to stimulate the growth of thyroid cancer. So there's two functions for the use of thyroid hormone: replace the function of the gland and to maintain the TSH levels at a low level.

Andrew Schorr:
So there's a young woman, she's had the radiation, in this case was appropriate, and the surgery. She wants to go on with her life. As you said earlier the likelihood is everything is just going to be fine. Now, that's also an age when someone might be wanting to have a child. And I'm sure you get asked about this all the time.

Dr. Dutra:
Yeah.

Radiation Treatment and Pregnancy

Andrew Schorr:
Should a woman who has had that radiation have concerns about pregnancy?

Dr. Dutra:
In general a minimum of four to six months is usually recommended before conception after treatment for thyroid cancer. If the treatment did not include radioiodine therapy, then the patient can try to conceive after six or eight weeks, just to allow recovery from surgery and adequate doses of thyroid hormone. But if a patient receives radiation therapy usually a minimum of four to six months is usually recommended before conception. There is a small risk of spontaneous abortion for up to one year after treatment.
About ten years ago a group from France published probably the largest study of radioiodine treatment and its effects on subsequent pregnancies. The study showed clearly that the iodine therapy had no effect on the outcome of pregnancy and offspring in women treated for thyroid cancer except for miscarriage in a small group of women that occurred during the first year after radioiodine treatment. The same group of physicians published recently, in 2008, an update with twice the number of patients in multiple pregnancies. This study concluded that maternal exposure to iodine therapy is not likely to cause any significant problems or measurable side effects during subsequent pregnancies.

This varies from one patient to another. So if the patient wishes to get pregnant she needs to talk to her physician because a lot of the decisions that have to be made depends on the results of the initial radioiodine treatment and what are the plans for radioiodine treatment in the future. Let's say the patient had the radioiodine treatment, there was a large amount of thyroid tissue left behind, maybe during the treatment they discovered that the patient had distant metastasis, those patients probably should not get pregnant because they may need in one year or one year and a half another radioiodine treatment.

Andrew Schorr:
Right.

Dr. Dutra:
So in general four to six months is okay, but this has to be clearly discussed with the surgeon and with the endocrinologist.

Andrew Schorr:
All right. Now, things happen and maybe we can't really give a clear answer in this case, but you we got an e-mail from Kimberly who lives in St. Louis, and she writes in, "Doctor, I had radioactive iodine treatment three and a half months ago, and I just found out I'm pregnant. It was not planned. So my doctor is telling me to wait and see, but I'm worried. What are the chances of something going wrong?"

So I know you'd rather not see someone in this situation, but would she just be monitored, we don't want to worry her but the likelihood that something could be wrong?

Dr. Dutra:
Basically after ten weeks or so she probably doesn't have any radioiodine in her body. So it's very unlikely, although possible, that a complication may occur, and that would be most likely a miscarriage. But it's unlikely, very unlikely. This has occurred in very few patients, and this has been clearly documented in the literature. She's not the only unfortunate case. But I would agree with her doctor that observation alone, do we know if this is her first child?

Andrew Schorr:
I kind of feel it is, yeah. I think it is.
Dr. Dutra:
I wouldn’t panic with that. I think there is much more chance that everything will be fine and she probably will have a healthy baby.

Andrew Schorr:
All right. We got another question. A lot of women are asking questions about pregnancy. Carla wrote in from Joliet, Illinois, and she said, "I had I-131 treatment," so iodine, "for thyroid cancer when I was 20, and now I'm 30. Have I jeopardized my chances of getting pregnant?"

Dr. Dutra:
No, absolutely not. There is a small reduction in ovarian function soon after the radioiodine treatment, but the ovaries recover pretty quickly, and there would be a concern basically soon after radiation, but ten years, one year, a few months after treatment there is absolutely no evidence that a patient who has been treated with radioiodine for thyroid cancer will be at risk of infertility.

Treatment Side Effects

Andrew Schorr:
All right. Good news. Now, Jill, who lives in Chicago is going through all this now. She says, "I’m having my thyroid removed due to papillary cancer. What side effects can I expect from the treatment? I’ll be having the radioactive iodine therapy." So what are the side effects of that, Doctor?

Dr. Dutra:
There are short-term side effects and long-term side effects. The short-term side effects, probably a little change in taste. Some patients may develop nausea. Occasionally we'll see patients with swelling of the neck, some discomfort, the area that's been operated, but these are very minor. Very, very minor, a little bit more short-term. And long-term complications are usually associated with dry mouth, and this is a condition known as xerostomia, which is usually the result of reduced salivary production caused by inflammation of the salivary glands. The salivary glands, if you uptake some of the iodine it will reduce the production of saliva. In general it tends to get better as time goes by. Unless the patient needs another treatment for a recurrence or persistent disease, that should not be severe.

Andrew Schorr:
All right. But again putting this in perspective, increasingly now, there is a percentage of people with early thyroid cancer where the judgment is they don’t need radiation.

Dr. Dutra:
That’s correct.

Andrew Schorr:
All right. So we'll put it, where it used to be used more widely, a little less so now.
So then a woman who's been one of your patients says, well, Doctor, I've had this cancer, thyroid cancer, and it looks like I'm in the clear now, and I imagine you'll tell us about regular evaluation, but they say, if I have had this one cancer, Doctor, what about breast cancer? What about ovarian cancer that women worry about? Am I at higher risk?

Dr. Dutra:
So what we're talking about here is second malignancy following cancer treatment. So thyroid cancer survivors appear to be at a small increased risk of developing second primary malignancy relative to the general population. In particular adrenal, bone and joints, breast, brain, colon, kidney, and most frequently leukemia. But except for leukemia, treatment with radioiodine does not appear to explain the increased relative risk of some of these second malignancy when compared to the general population. So there may be a genetic disposition for a second malignancy which may be unrelated to the radioiodine itself. So there is one very well-known European study that showed multiple treatments with increasing cumulative doses of radioiodine appears to be associated with increasing risk of leukemia and some other solid tumors. But the risk is likely to be small, very small.

Surveillance and Follow-Up

Andrew Schorr:
Well, let's talk about surveillance then. So for the woman who maybe didn't have multiple treatments of radiation but maybe had the one, what follow-up would you do and what surveillance for either any kind of a recurrence or other cancers would you typically follow?

Dr. Dutra:
This is an important problem for young patients because young thyroid cancer survivors will typically survive for many decades following the initial treatment, and some tumors may have a longer latency period to develop from the time of initial treatment. So you want to survey these patients for the possibility of thyroid cancer recurrence but also look at the chance that the patient may develop a second primary tumor.

So the surveillance depends on the stage of the disease at the initial diagnosis. So if the patient has an aggressive form of papillary thyroid carcinoma, this patient needs to be seen every six months. Ultrasound of the neck is performed every six months, and the radioiodine scan, PET scan, MRIs are usually ordered if thyroglobulin, which is a protein that is produced only by the thyroid gland, starts to climb. So a typical patient with a small, localized stage one disease will require probably the first year an ultrasound every six months and then maybe another radioiodine scan, not treatment, after a year or so. After that, the endocrinologist or the surgeon will check thyroglobulin every six months or every year or so.
So the follow up is very simple. It's clinical examination, laboratory examination with measurement of thyroglobulin, and measurement of the TSH levels because you want the TSH to be in the lower levels, so if the TSH is climbing you have to adjust the dose of the thyroid hormone therapy, and imaging studies basically using ultrasound.

Andrew Schorr:
All right. And then a woman does what any woman should do, and that is mammography on a regular schedule at the appropriate age, pap smears, etc.

Dr. Dutra:
Colonoscopy, depending on age, yes.

Andrew Schorr:
Right. Colonoscopy, can't forget that one. Well, Doctor, you have discussed a lot with us and I think have given guidance for women, but while the incidence may be increasing and certainly needs attention and I'm sure there will be a lot of research trying to figure out why, this doesn't sound to me routinely like a cancer. Well, first of all, if you feel a nodule you shouldn't panic, as you said. It's probably not malignant. But if it is malignant is also doesn't sound routinely like a cause for panic either.

Dr. Dutra:
That's correct.

Andrew Schorr:
Okay. Well, that's one of our happier cancer stories, and I'm glad that we could tell it. Dr. Jose Dutra, thank you so much for being with us.

Dr. Dutra:
Always a pleasure.

Andrew Schorr:
The director of the thyroid surgical clinic at Northwestern Memorial Hospital.

I should mention that we have done a program earlier kind of on a different aspect of thyroid cancer that I'd urge people if you're interested in this topic to listen to, and that was with Dr. Dina Elaraj, who is an endocrine surgeon at Northwestern Memorial Hospital, and that's in our huge and growing ihealth library on the nmh.org website.

Also, we have another important program coming up particularly for men who have smoked, and that is "Minimally Invasive Surgery to Repair Life Threatening Aortic Aneurysms," and that will have Dr. Mark Morasch. So that's a very important thing for certain populations, and I mentioned particularly men who have smoked
because they're at risk of aortic aneurysm, and that could be fatal if that's not caught in time. But, as I said, a happier story today with the treatment of thyroid cancer.

I'm Andrew Schorr. Thanks to Northwestern Memorial Hospital for sponsoring our whole series of programs. Remember, knowledge can be the best medicine of all.

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