

Thyroid Cancer: An Epidemic of Disease...Or Over diagnosis?



Put the word *cancer* after anything—brain cancer...pancreatic cancer...lung cancer—and it raises everyone's level of alert, especially when a particular cancer appears to be on the rise. But the new alert that's sounding now, which centers around *thyroid cancer*, isn't really about an epidemic of the disease itself. Instead, what has many experts worried is a possible epidemic of *overdiagnosis and overtreatment*.

Why are they so concerned? Because most people diagnosed with thyroid cancer will never even develop symptoms, much less have their lives threatened by the disease. Yet they are being treated with surgery, radiation and/or medication—treatments that carry serious risks of their own. There's also considerable expense, inconvenience and anxiety associated with the diagnosis and treatment...all of which could be completely unnecessary in a significant number of cases.

Will you or a loved one wind up being pushed down that path? You could be, given that thyroid cancer is now the most commonly diagnosed endocrine cancer in the US. Here's what you should know before that happens...

LOOKING AT THE NUMBERS

The thyroid cancer diagnosis rate in this country has nearly *tripled* since 1975, going from 4.9 cases per 100,000 people to about 14.3 per 100,000 people. But despite the massive increase in the rate of people diagnosed with the disease, the rate of people *dying* from thyroid cancer hasn't changed at all over the same time period.

More on over diagnosed Diseases

The Epidemic of Over diagnosis:
Unnecessary Tests, Drugs and
Surgery. Watch Out!
Psychiatric Fads Lead to Over diagnosis
of Mental Illnesses
Unnecessary Tests for Cancer Patients
Is It Really Alzheimer's?

You might assume that the explanation is that thyroid cancer treatment has improved so much over the past 30-plus years that essentially *all* of the additional cases have been successfully treated. But in fact, the treatment for thyroid cancer is pretty much the same as it has been. So the more likely explanation is a dramatic rise in diagnosis—or, as many experts now caution, in overdiagnosis. Here's why...

The numbers, the risks: More than 60,000 people will be diagnosed with thyroid cancer in the US this year, with women outnumbering men three to one. Almost all of these patients will have surgery to remove their thyroid glands, which carries a risk for nerve damage that can lead to permanent hoarseness or weak voice...and requires them to take medication for the rest of their lives to replace the hormones their thyroid glands previously produced. In addition, many of these patients will be given radioactive iodine to conquer any remaining thyroid cancer cells—a treatment that can cause dry eyes and altered taste and more than *quintuple* the risk of developing leukaemia.

Those risks would be worth it if the treatments saved lives. But most of these patients would not have died of thyroid cancer anyway! *Evidence:* Studies involving autopsies have shown that thyroid cancer is detected in as many as *one in three* people who died from any other cause, yet in the US, thyroid cancer accounts for only about *one in every 200,000* deaths overall! This means that the number of people who die *with* thyroid cancer—but not *because* of it—is staggering.

NOT ALL THYROID CANCERS ARE CREATED EQUAL

As cancers go, thyroid cancer is one of the least deadly, claiming fewer than 1,900 lives in the US each year. There are four different types of thyroid cancer...

- Papillary cancer accounts for 85% of cases and has an excellent prognosis, with 98% of patients alive 20 years after diagnosis.
- Follicular cancer accounts for 11% of cases and has a 10-year survival rate of more than 95% in patients younger than age 40 at diagnosis.
- Medullary cancer accounts for 3% of cases. It has a 10-year survival rate of 75% for those under age 40 at diagnosis, and 50% rate for older patients.
- Anaplastic cancer accounts for just 1% of cases. It is the most aggressive type, with a one-year survival rate of 20%.

WHAT'S REALLY DRIVING THE INCREASE?

According to Juan P. Brito, MBBS, an assistant professor of endocrinology at Mayo Clinic in Rochester, Minnesota, and coauthor of a recent study analyzing trends in thyroid cancer, it is papillary cancer (the least dangerous type) that's driving the increase in thyroid cancer diagnosis.

Rates of the other forms of cancer have barely changed. He pointed out several likely reasons why more papillary cancers are being found...

More doctors are *screening* for the disease, looking for cancer in people with no symptoms. During a routine exam, the doctor might examine the patient's neck, feeling for thyroid *nodules* (solid or fluid-filled lumps within the thyroid gland), which are common. When the doctor's fingers find a nodule, he then schedules an ultrasound to get a better look at it, and then perhaps a biopsy is taken with a needle. Thyroid cancer is found in about 10% of people with nodules.

Thyroid nodules and cancers also are detected *incidentally*, during an imaging test for another condition—and these imaging tests are being done more and more often. For example, a CT exam of the chest or an ultrasound of the carotid artery can easily pick up a tiny two-millimeter nodule in the neck, Dr. Brito said. Such incidental findings explain, at least partially, why nearly 40% of thyroid cancers now being found are smaller than one centimeter across (technically called microcarcinomas)...whereas back in 1989, just 25% of known papillary cancers were smaller than one centimeter.

The *diagnostic cascade* also explains some of the increased incidence. *Example*: A patient tells her doctor that she's feeling sluggish and gaining weight. The doctor's endocrine antenna goes up, and he suspects that an underactive thyroid gland is causing those vague symptoms. If a lump is felt in the thyroid or seen on an ultrasound, the doctor might order a biopsy, and then the results might show papillary cancer—even though the patient's thyroid may have had *absolutely nothing* to do with the fatigue and weight gain.

SCARED PATIENTS IGNORING GUIDELINES?

The American Thyroid Association recommends *against* biopsies for thyroid nodules smaller than a centimeter, except for people with a family history of thyroid cancer...those who had previous head or neck exposure to radiation from, for instance, medical radiation therapy or heavy industrial exposure (not just dental x-rays)...or those in whom the lymph nodes or ultrasound of the neck seem particularly suspicious. For patients who meet one of these exceptions and for those with larger nodules, a biopsy is recommended.

If the biopsy reveals cancer, the patient is sent for surgery. For some, what's recommended is a *total thyroidectomy* (removal of the entire thyroid gland)...or, for some patients with the low-risk papillary cancer, what's suggested according to the guidelines is a *partial thyroidectomy* (removal of just the part of the thyroid with the nodule).

Despite these guidelines, however, many patients who are candidates for partial thyroidectomy instead opt for the complete thyroidectomy. Perhaps they feel nervous when they hear the word cancer and think, *Take out the whole darn thing!* And then they risk the treatment complications described previously. As Dr. Brito pointed out, "These patients would be better able to make informed choices if they understood the extremely low likelihood of ever developing symptoms or dying from thyroid cancer." No one is suggesting that we simply ignore papillary cancer. But to cut back on overdiagnosis and overtreatment, we need...

Risk assessment. Doctors need better tools to identify which papillary cancers carry higher risks so they can send the *right* patients—rather than *all* of them—to the operating room. According to Dr. Brito, the signs that should raise the level of alert,

especially in a patient with a family history of thyroid cancer, include a visible, palpable mass...radiation exposure during childhood...difficulty swallowing...a change in the voice...and certain features found during an ultrasound.

Large studies. Clinical trials showing what happens when people with small, low-risk papillary cancers choose to *skip surgery* and instead adopt an *active surveillance* ("watchful waiting") approach, similar to what's often done with prostate cancer, are needed in the US. In one study from Japan, patients with papillary microcarcinoma did not have surgery, but instead were followed with annual or biannual ultrasounds and measurements of blood markers for thyroid disease. Over the next 10 years, the tumors actually shrank in some patients. One-third of the participants ended up having thyroidectomies, mainly because their tumors had grown—but none of these patients had a recurrence of cancer after surgery and there were no deaths.

Renaming. Many experts think that it would be appropriate to call small, low-risk papillary tumors something other than cancer—to reduce the anxiety that comes with a cancer diagnosis and the subsequent overtreatment. According to Dr. Brito, a name such as *papillary lesions of indolent course* (PLIC) might enable less emotionally charged conversations about the benefits and harms of the various treatment options. There's precedent for this. Such renaming has already occurred with other "cancers," he pointed out—for instance, what is now known as *cervical intraepithelial neoplasia* used to be lumped together with full-blown cervical cancer.

Alert: [You Should Never Ignore These Rashes](#)

Self-defense: If you have a thyroid nodule or a small, low-risk papillary cancer, you do not need to rush into treatment, said Dr. Brito. Thoroughly discuss the pros and cons with your doctor—*show him this article, if you need to, to get his full attention on the matter*—and consider getting a second opinion from a [thyroid cancer specialist](#).

Source: Juan Pablo Brito, MBBS, assistant professor and Health Care Delivery Scholar, division of endocrinology, diabetes, metabolism and nutrition, and coinvestigator of the Knowledge and Evaluation Research Unit, Mayo Clinic, Rochester, Minnesota. Dr. Brito's recent study on thyroid cancer was published in *BMJ*.