Medical Xpress

Imaging after thyroid cancer treatment does not necessarily mean better outcomes

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More imaging after thyroid cancer treatment identifies recurrence, but it does not always improve survival, a new study suggests.

Researchers from the University of Michigan Comprehensive Cancer Center looked at 28,220 patients diagnosed with differentiated thyroid cancer, using data from the Surveillance Epidemiology and End Results-Medicare linked database.

They used claims data to track ultrasound, PET scans and radioiodine scans in patients diagnosed with thyroid cancer between 1998 to 2011. These scans would be done to monitor for signs of cancer returning.

The researchers found that 57 percent of patients had at least one ultrasound, 24 percent had a radioiodine scan and 15 percent had a PET scan. Patients who had these scans were more likely to have additional treatments, such as surgery, radioactive iodine treatment or radiation therapy.

But, while use of imaging rose substantially during this time, the death rate did not change. The study appears in *The BMJ*.

"Over time, we have seen this marked increase in the use of imaging after primary treatment of thyroid cancer despite the fact that the majority of our patients have low-risk cancer. For the most part this imaging isn't affecting survival," says Megan R. Haymart, M.D., assistant professor of medicine at the University of Michigan Medical

School.

"With this post-treatment surveillance imaging, we're picking up more recurrences. But is that clinically significant? We might be picking up really small lymph nodes that if left untreated wouldn't have impacted survival," says study author Mousumi Banerjee, Ph.D., research professor of biostatistics at the University of Michigan School of Public Health.

More people are being diagnosed with low-risk thyroid cancer, but the use of imaging among these patients has skyrocketed disproportionately. Thyroid cancer generally has a high survival rate - roughly 96 percent of patients are alive 10 years later. But a small number of thyroid cancers are more aggressive and likely to return.

"There is a place for imaging in thyroid cancer survivors. But the specific type of imaging needs to be tailored to the patient," Haymart says. "When we have a patient with a favorable prognosis, certain types of imaging may not be necessary. But there is a group for whom it might be appropriate."

The researchers found that radioiodine scans did lead to improved survival. Ideally, these scans are used when blood tests suggest a rise in a certain tumor marker and the patient is known to be responsive to radioactive iodine treatment.

Researchers have raised the question of what kind of surveillance regimen is appropriate after treatment for many types of cancer, including lung cancer and breast cancer. A campaign called Choosing Wisely aims to create a national dialogue about avoiding unnecessary medical tests. This current study highlights the importance of reassessing appropriate imaging after initial cancer treatment.

It's an important question because imaging is not without impact, Haymart and Banerjee say. While potential physical harm from these tests is low, many cancer patients report "scanxiety," a feeling of intense distress prior to imaging as they fear bad news. The tests can also be costly. All of this is compounded if the test leads to additional treatment, with some of these treatments having downstream risks.

"The impact of these tests on patients' psycho-social well-being is also important. Just because we can image, doesn't mean we should for all. We need to consider whether it is the appropriate thing to do. There is a large group of patients for whom some of these imaging tests may be unnecessary," Banerjee says.

This study is the foundation for future work by these researchers. Next steps include looking at the cost-effectiveness of these tests, randomized controlled trials of surveillance imaging, and understanding whether it is the patients or their providers who are pushing for these tests.

More information: Use of imaging tests after primary treatment of thyroid cancer in the United States: population based retrospective cohort study evaluating death and recurrence, The *BMJ*, DOI: 10.1136/bmj.i3839

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