

Lymph nodes signal more aggressive thyroid cancer even in young patients

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Patients older than age 45 with thyroid cancer that has spread to neck lymph nodes have long been considered at higher risk of dying, but the same has not been true for younger patients.

Now researchers at the Duke Cancer Institute and the Duke Clinical Research Institute have found that younger thyroid cancer [patients](#) with lymph node involvement are also at increased risk of dying, contrary to current beliefs and staging prognostic tools that classify young patients as having low-risk disease.

The finding, published this week in the *Journal of Clinical Oncology*, comes at a time when the American Joint Committee on Cancer is working to revise the staging criteria for all cancers, including thyroid cancer, which is the fastest-increasing malignancy among both men and women in the U.S.

"The staging system for thyroid cancer is very idiosyncratic, in that there are two different patterns of staging based on whether the patient is over 45 years old or under 45," said Julie Ann Sosa, M.D., professor of surgery and medicine at Duke and senior author of the study. "This is the only cancer where age is such an important component of the staging system."

Sosa said the current system classifies cancers in four stages among patients over the age of 45, with Stage 1 patients having the best prognosis and Stage 4 having the worst. For patients under 45, there are currently only two stages, and both are typically associated with favorable overall prognoses.

Sosa and her colleagues said they sought to explore whether the current staging system accurately reflects the impact of lymph node involvement on survival in younger patients. Two previous studies suggested that lymph involvement was not prognostically relevant to those under 45,

but those studies had multiple shortcomings.

In their analysis, the Duke researchers examined nearly 70,000 patient outcomes reported in two large government data sources - the National Cancer Data Base and the SEER database.

They found that when cancer spread to the [lymph nodes](#) in the neck, younger patients had a lower survival rate compared to patients with no spread to the lymph nodes. This risk was similar to that of older patients. What's more, the number of lymph nodes that were involved played a role in survival. When just one node was cancerous, the survival risk was better, but if six or more nodes were cancerous, the survival was clearly compromised.

"This becomes an issue of the burden of disease," Sosa said. "The number of lymph nodes involved makes a difference, but only up to a point. Six lymph nodes appear to be a critical number - anything more than that does not really add to the increased risk of death."

Sosa said the findings have immediate and potentially practice-changing implications. She said the study raises the question of whether the current [staging system](#) should be revised for younger [thyroid cancer](#) patients to better reflect their actual prognosis.

Additionally, she said, the finding suggests that doctors might need to conduct more rigorous imaging and biopsy analysis before surgery to determine whether more lymph nodes should potentially be removed.

"All surgery comes with risk, so we only want to expose patients to those risks if they have attendant benefits," Sosa said. "Knowing that lymph node involvement in younger patients does carry a survival risk, doing a more extensive surgery might be warranted."

Provided by Duke University Medical Center

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