



THYROID CANCER

Combining cancer staging systems and patient age improves survival predictions for thyroid cancer

BACKGROUND

Cancer staging systems are used to determine the extent to which a cancer has invaded and spread. Knowing the stage of one's cancer provides information about prognosis (the lower the stage the better the prognosis) and potential treatments. The American Joint Committee on Thyroid Cancer/Tumor Node Metastasis (AJCC) is the most commonly used staging system for thyroid cancer. Like other cancers, this system incorporates the size of the cancer (T), the spread to lymph nodes in the neck (N) and the presence or absence of spread of the cancer to other organs, to provide an estimate of disease specific survival (DSS) and cancer recurrence. But unlike other cancers, survival in thyroid cancer is also highly dependent on age. Until recently everybody less than 45 years old (< 45) was automatically classified as having low risk stage I disease unless there was evidence of spread of the cancer to other organs, in which case they were considered to have stage II disease.

Recently the AJCC system was revised to reflect a greater understanding of the behavior of thyroid cancer. One of the most important changes of this update was to adjust the age cut-off from 45 to 55 years. With this change, up to 1/3 of all thyroid cancer patients now fit into lower risk categories based solely on their age. Consequently, this new < 55-year-old group with supposedly excellent survival rates now includes patients with a much wider spectrum of cancer than before - from small papillary microcarcinomas to large cancers that have invaded into major structures in the neck and other organs in the body. As a result, the optimistic AJCC survival rates that have been previously quoted for younger patients with thyroid cancer may not be accurate any more.

The goal of the current study was to determine whether combining the AJCC classification with the American Association initial risk stratification system (ATA-IRS) would provide a more accurate estimate of DSS for the various subsets of patients with thyroid cancer who are < 55-years-old.

THE FULL ARTICLE TITLE

Ghaznavi SA et al 2018 Using the American Thyroid Association risk-stratification system to refine and individualize the American Joint Committee on Cancer eighth edition disease-specific survival estimates in differentiated thyroid cancer. *Thyroid*. Epub 2018 Aug 2.

SUMMARY OF THE STUDY

The authors studied 10-year survival in 4881 patients less than 55-years-old with papillary or follicular thyroid cancer who were treated at the Memorial Sloan Kettering Cancer Centre between 1980 and 2016. Patients were first assigned to a stage based on the revised AJCC system (I or II). Then they were further divided into age group at diagnosis (younger = < 45 years; older = 45-55 year). Finally, the ATA-IRS recurrence risk stratification system (low, intermediate or high) was applied to the subgroups to see if a more refined and accurate estimate of DSS could be calculated.

Overall, there were 122 (2.5%) disease specific deaths in the entire < 55-year-old age group. By integrating the AJCC system with the ATA system, the authors were able to identify six different subgroups with differing outcomes: (i) stage I/ATA low risk, younger and older, 100% DSS; (ii) stage I/ATA intermediate risk, younger and older, 98% DSS; (iii) stage I/ATA high risk, younger, 95% DSS; (iv) stage I/ATA high risk, older, 89% DSS; (v) stage II/ATA high risk, younger, 78% DSS; and (vi) stage II/ATA high risk, older, 61% DSS.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

Not everybody less than 55 years old with thyroid papillary or follicular thyroid cancer has the same prognosis. A composite staging approach that integrates two different cancer staging systems (AJCC and ATA) identifies six distinct subgroups with progressively worse DSS and provides a more individualized estimate of survival. This will allow identification of patients that would benefit from more aggressive treatment of their thyroid cancer.

— Phillip Segal, MD





THYROID CANCER, continued

ATA THYROID BROCHURE LINKS

Papillary and Follicular Thyroid Cancer: <https://www.thyroid.org/thyroid-cancer/>

ABBREVIATIONS & DEFINITIONS

Papillary thyroid cancer: the most common type of thyroid cancer. There are 4 variants of papillary thyroid cancer: classic, follicular, tall-cell and noninvasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP).

Papillary microcarcinoma: a papillary thyroid cancer smaller than 1 cm in diameter.

Follicular thyroid cancer: the second most common type of thyroid cancer.

Cancer metastasis: spread of the cancer from the initial organ where it developed to other organs, such as the lungs and bone.

Disease specific survival: The percentage of people who have not died from a specific disease during a defined period. People who died from causes other than the disease being studied are not counted in this measurement.

