

The 8th American Joint Committee on Cancer TNM staging for Well-differentiated Thyroid Cancer: What's New?

Management of well-differentiated thyroid cancers (WDTC) is undergoing a sea change with attempts to more accurately stage patients and identify the subset of patients who have a higher risk of local recurrence as well as death due to the disease. This re-categorization would downstage patients and reduce the number of patients in higher stages of the disease who have poorer outcomes.

At the start of the year 2018, the 8th edition of the American Joint Committee on Cancer (AJCC; www.cancerstaging.org) was put into clinical use. However, this was published in October 2016, to allow clinicians to familiarize as well as make adaptations in software used for data capture in tumor registries.¹ In this editorial, I would like to differentiate between the 7th and 8th editions of the TNM staging for WDTC. Changes in medullary thyroid cancer (MTC) and anaplastic thyroid cancer (ATC) staging systems are beyond the scope of this editorial. As compared to the American Thyroid Association (ATA) risk stratification system that predicts disease recurrence, the AJCC staging is useful to predict survival in patients with cancer.^{2,3}



The 8th edition aims at to downstage the patients that more accurately reflects their low risk of dying from the disease. This would, in turn, have a significant impact on therapeutic strategies at initial presentation; help in accurate prognostication and individualize follow up of patients after completing treatment.

The most important changes to the 8th edition of the AJCC TNM staging are the (i) increase of the age cutoff to 55 years, (ii) removal of regional lymph node metastasis, and (iii) microscopic extrathyroidal extension from the definition of T3 disease.⁴

The increase of the age cutoff to 55 years from 45 as in the previous edition has downstaged many patients to stage I without altering the mortality associated with the various stages.⁵ However, it is well recognized that mortality increases with advancing age starting at about 35 years. Hence, age as a continuous variable should do better than a single cutoff point as in AJCC.⁶

Extrathyroidal extension identified only on microscopy can be discounted whereas gross extension evidenced by preoperative imaging or perioperatively is a significant unfavorable prognostic factor. As in previous editions, all data collected preoperatively, perioperatively as well as postoperative first 4 months of follow-up after thyroid surgery should be used to define the initial N and M status.

Removal of lymph node metastasis and minor extrathyroidal extension from the definition of the T3 disease has resulted in a downstaging significant number of patients in the 45–54 years category to stage I. Patients >55 years with minor extrathyroidal extension N0M0 would be downstaged as stage I and >55 years, N1M0 as stage II.

The impact of clinically significant lymph nodes is adverse in all age groups, but in the lesser age group, it is less significant, hence grouped in stage I. However, in the older age group, the impact on survival is more significant, therefore grouped in stage II.⁴ For the classification of patients as N0, there should be no evidence of lymph nodes on clinical examination, preoperative imaging or during intraoperative examination. A routine prophylactic central neck dissection is not required for accurate assessment of lymph node status. N0 disease is further subclassified as N0a, which is confirmed negative on FNA or biopsy and N0b when there is a clinical or radiological absence of disease.

The difference in the two staging systems in the younger age group relates only to the age cutoff as mentioned earlier. However, in the older age group, there are significant differences between the 7th and the 8th editions of the staging system. In the 7th edition, tumors <2 cm were classified as stage I and tumors between >2 cm and <4 cm as stage II. In the current staging system, all patients with tumors <4 cm confined to the thyroid gland are classified as stage I. Since there was no difference in disease-specific survival in the two subgroups, it deemed appropriate to merge these two subgroups as one.

However, as a result of the re-categorization in the 8th edition, the 10-year disease-specific survival is worse in the various stages in the higher age group category as compared to 7th edition. The 8th edition also classifies very

few patients as having stage 4, but those who are classified in that stage have a significantly lower disease-specific survival when compared to a similar stage in AJCC 7th edition. This re-staging of patients should help in the improved prediction of survival, which is the main thrust of the AJCC 8th edition of the TNM staging for thyroid cancer.

What needs to be understood by the treating physician is that the risk of death from thyroid cancer cannot be equated to disease recurrence, especially in the younger age group patients, where all patients are grouped as one. So there could be disease recurrence but no increased death due to thyroid cancer. So, during the assessment of patients in the clinic, both factors need to be taken into consideration, which is the risk of disease recurrence as well as the risk of dying from thyroid cancer. Hence, the dynamic risk assessment proposed by the ATA, both for risk of disease recurrence and the risk of dying from thyroid cancer, will further refine the initial risk estimates as well as identify the patients who would have poorer outcomes when compared to the initial staging.²

These are exciting days for the disease management groups focusing on the management of thyroid cancer. Working together in these focused groups and understanding the new staging system is crucial in communicating outcomes as well as treatment strategies to the patients who suffer from this disease.

I wish all readers the very best in these exciting times as we physicians and surgeons care for our patients who come to us with much hope and trust us to give them the best possible care. Understanding the updated AJCC staging system goes a long way in helping us fulfill that goal.

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