

AMERICAN THYROID ASSOCIATION

Male Sex is Not an Independent Prognostic Factor for Thyroid Cancer

Jerome M. Hershman

Nilubol N, Zhang L, Kebebew E. Multivariate analysis of the relationship between male sex, diseasespecific survival, and features of tumor aggressiveness in thyroid cancer of follicular cell origin. Thyroid 2013;23:695-702. Epub May 28, 2013; doi: 10.1089/thy.2012.0269.

SUMMARY • • • • • • • • • • • • • •

Background

Thyroid cancers in men have usually been regarded as having a worse prognosis than thyroid cancers in women. The data to substantiate that sex is an important factor in the prognosis of thyroid cancer may be misinterpreted when other clinical factors are not considered. The current study focuses on sex as a prognostic factor in an analysis of over 60,000 cases of differentiated thyroid cancer in the Surveillance, Epidemiology, and End Results (SEER) database.

Methods

The study included 61,523 adult patients with nonmedullary thyroid cancer in the SEER database from 1988 to 2007. The patients were divided into four groups based on tumor histopathology: group 1 had moderately differentiated thyroid cancer (DTC), group 2 had papillary thyroid cancer (PTC) with Hürthle cells, group 3 had poorly differentiated DTC (columnar, insular, tall-cell variants), and group 4 had undifferentiated thyroid cancer. The variables analyzed were age (<45 and >45 years), sex, and race, histology (groups 1 to 4), greatest dimension of the primary cancer, extrathyroidal extension, cervical lymph-node metastasis, distant metastasis, types of surgery, radiotherapy (none, radioisotopes, external radiotherapy, combined radioisotopes and external-beam radiation therapy, and disease-specific survival (DSS).

Results

The mean follow-up time was 54 months. At the time of diagnosis, 61.2% of men were >45 years of age, as compared with 49.7% of women (P<0.01). Men had significantly more aggressive histologic subtypes of DTC and undifferentiated thyroid cancer. Moreover, men had significantly more advanced disease at presentation: larger primary tumor size (P<0.01), higher rates of extrathyroidal extension (P<0.01), regional lymph-node metastasis (P<0.01), and distant metastasis (P<0.01). Stratified by histology, there was a strong association between men and larger tumor size (P<0.01) and more advanced stage at presentation. Men had shorter DSS than women, regardless of age. Although univariate analysis showed that sex was a significant prognostic factor associated with disease-specific survival (DSS) (P<0.01), sex was not an independent prognostic factor associated with DSS by multivariate analysis.

Conclusions

Men with thyroid cancer are more likely to present with more advanced disease, aggressive histologic subtypes, and older age, but male sex is not an independent prognostic factor for DSS.

continued on next page

ANALYSIS AND COMMENTARY • • • • •

The excellent analysis by these authors shows that the worse survival of men with DTC is attributed to more advanced disease at the time of presentation. The authors suggest that more aggressive screening of men to detect thyroid cancer at an earlier stage would improve their outcomes, and this seems very reasonable. The worse outcome of men with thyroid cancer has influenced the evaluation of thyroid nodules to the point at which, all other factors being equal, male sex is in the minds of many endocrinologists a factor that enters into the decision for surgical

References

- Toniato A, Boschin I, Casara D, Mazzarotto R, Rubello D, Pelizzo M. Papillary thyroid carcinoma: factors influencing recurrence and survival. Ann Surg Oncol 2008;15:1518-22. Epub March 7, 2008.
- Konturek A, Barczynski M, Nowak W, Richter P. Prognostic factors in differentiated thyroid cancer—a 20-year surgical outcome study. Langenbecks Arch Surg 2012;397:809-15. Epub February 15, 2012.

removal. However, the data of the authors shows that survival of men is related to traditional risk factors and not male sex.

Others have concluded that sex is not an independent risk factor in DTC in multivariate analysis in smaller cohorts (1,2). At this time, it is still unclear whether men have intrinsically more aggressive disease or whether the reduced DSS is due to delayed diagnosis. When men present with localized disease, their survival is the same as that in women, a factor that reinforces the conclusion that sex is not an independent factor for DSS.