Life Expectancy Is Not Reduced in Patients With Differentiated Thyroid Cancer Who Are Younger Than Age 45

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SUMMARY

Background
Virtually all patients with cancer are concerned about their life expectancy. Although patients with thyroid cancer usually have normal life expectancy when treated appropriately, there are many whose life span is limited by the thyroid cancer. This paper is a review of a German database with careful analysis of clinical factors and life expectancy.

Methods
The Würzburg Thyroid Cancer Database was established in 1980. Using this database, the authors analyzed clinical features and survival of 2011 patients with differentiated thyroid cancer (DTC) who had been treated and followed from January 1980 until December 2011. Patients were treated by total thyroidectomy with subsequent $^{131}$I ablation, except for 391 who had isolated papillary microcarcinoma and were treated with hemithyroidectomy. During follow-up, patients underwent neck ultrasonography, radioiodine scans, and thyroglobulin measurements at 6-month intervals for 5 years and annually thereafter. Persistent disease or recurrence was generally treated with $^{131}$I. Patients were classified as having papillary, follicular, or Hürthle-cell cancer. Those with poorly differentiated or insular carcinoma were not included. Survival rates were calculated by the Kaplan–Meier method and compared with standard mortality rates of the general German population adjusted for birth year and sex.

Results
The median age at diagnosis was 47.6 years and the median follow-up was 7.1 years. During the follow-up, 264 patients (13.1%) died. Overall 14% of the patients had reduced life expectancy. There was no reduction in life expectancy for those younger than age 45, but it was reduced in those older than age 45, especially in those over age 60. There was a statistically significant reduction in relative survival in patients with follicular thyroid carcinoma, those with extensive extrathyroidal invasion, those with lateral-compartment lymph-node metastases (but not central-compartment metastases), and those with distant metastases. The patients’ sex had no influence on life expectancy.

Conclusions
Life expectancy is not significantly reduced in 86% of patients with DTC. Only patients who were at least 45 years old and had extensive local invasion, lateral lymph-node metastases, or distant metastases at diagnosis showed a clearly lower life expectancy. 

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There are several caveats to this study. Wurtzburg is in an area of iodine deficiency. The authors state that more than 50% of the DTC cases were discovered incidentally as a result of surgery for large goiters. This is certainly not the case in the United States and other areas without iodine deficiency. Another issue is that a mean follow-up of only 7.1 years may be too short to detect mortality. Also, the authors excluded from their analysis patients with more aggressive forms of DTC, such as insular carcinoma. In addition, a single institution study may be too narrow for a definitive study of life expectancy.

The authors note that, despite the liberal use of $^{131}$I ablation for low-risk patients, there was no excess mortality due to secondary malignancies associated with the use of $^{131}$I therapy in contrast with other studies (3,4).

I found it interesting that there was a lack of effect of sex because it is commonly stated that men with thyroid cancer have a worse prognosis than women.

**References**


2. Tran Cao HS, Johnston LE, Chang DC, Bouvet M. A critical analysis of the American Joint Committee on Cancer (AJCC) staging system for differentiated thyroid carcinoma in young patients on the basis of the Surveillance, Epidemiology, and End Results (SEER) registry. Surgery. 2012;152:145-51.
