

Socioeconomic Status and Access to Care Do Not Account for the Rising Incidence of Thyroid Cancer

Jerome M. Hershman

Li N, Du XL, Reitzel LR, Xu L, Sturgis EM. Impact of enhanced detection on the increase in thyroid cancer incidence in the United States: review of incidence trends by socioeconomic status within the Surveillance, Epidemiology, and End Results registry, 1980-2008. Thyroid 2013;23:103-10. doi: 10.1089/thy.2012.0392. PMID: 23043274.

SUMMARY • • • • • • • • • • • • • •

Background

The incidence of thyroid cancer has been increasing during the past three decades. Some attribute this to increased case finding through the widespread use of thyroid ultrasound and FNA of small thyroid nodules (1). However, there has also been an increase of thyroid cancers larger than 4 cm that should be palpable and easily discovered clinically (2). The debate continues as to whether the increased incidence of thyroid cancer is a true increase or due entirely to enhanced detection. Access to health care is likely associated with socioeconomic status (SES). To explore the contribution of enhanced detection to the recent increases in incidence of thyroid cancer, the authors compared thyroid cancer incidence trends between low- and high-SES counties in the United States during the past three decades.

Methods

The authors linked the U.S. Surveillance, Epidemiology, and End Results 9 cancer database (SEER 9) with the 2000 U.S. Census database that contained countylevel SES data. The geographic areas were adjusted by a median household income index. To adjust for accessibility to health care, counties were divided into two categories: adjacent to a metropolitan area or not adjacent to a metropolitan area. Then counties were divided into quartiles based on economic data. The investigators created a composite index of county SES that included three indicators: cost-of-living-adjusted

median household income, percentage of population with at least a high school education, and percentage of population with health insurance.

Results

The SEER 9 database contained 49,819 patients with thyroid cancer during 1980–2008. The distribution of SES indicators suggested that patients with thyroid cancer in the SEER 9 registries tended to reside in the areas that have higher SES than the average U.S. population. Among all the patients with thyroid cancer, 95% were from counties that are in or adjacent to metropolitan areas. In counties with a high composite SES score, the increase in incidence was moderate during the 1980s and 1990s but more pronounced after 1996. In contrast, in counties with a low composite SES score, the incidence increased moderately and steadily over the entire study period. The incidence of thyroid cancer of all sizes increased (1.1 to 2 cm, 2 to 4 cm, and > 4 cm) in both the lowest SES quartile and the high combined upper three quartiles during the time period 1980–2010. The incidence increases were similar in metropolitan counties and counties not adjacent to metropolitan areas.

Conclusions

The data show that socioeconomic factors and access to medical care do not explain the rising incidence of thyroid cancer. Therefore, it is likely that there is a true increase in thyroid cancer incidence.

continued on next page



Socioeconomic Status and Access to Care Do Not Account for the Rising Incidence of Thyroid Cancer

Li N, et al.

ANALYSIS AND COMMENTARY • • • •

This study is a sophisticated analysis of the role of socioeconomic status and access to care as factors that might explain the increased incidence of thyroid cancer in the past 30 years. Because there were no significant differences in rising incidence between those in the lowest SES quartile and the combination of the other three quartiles and because there were no differences between regions with different access to care, the authors conclude that SES and access to care do not explain the rising incidence of thyroid cancer.

Therefore, it is likely that there is a real increase in the incidence of thyroid cancer.

A limitation of the study is that the SEER database does not contain economic data, so the data used was on a county basis rather than on an individual basis. In addition, only 4% of the patients were in the lowest SES quartile; the SEER registries tended to be in areas with higher SES than the average U.S. population. Nevertheless, the study provides reliable data showing that the rising incidence of thyroid cancer cannot easily be explained on the basis of ascertainment bias.

References

- 1. Davies L, Welch HG. Increasing incidence of thyroid cancer in the United States, 1973–2002. JAMA 2006;295:2164-7.
- 2. Chen AY, Jemal A, Ward EM. Increasing incidence of differentiated thyroid cancer in the United States, 1988–2005. Cancer 2009;115:3801-7.



www.thyroid.org

We invite you to join the ATA!

Are You Intrigued by the Study of the Thyroid? You Belong in the ATA!

- ATA members are leaders in thyroidology who promote excellence and innovation in clinical care, research, education, and public policy.
- Join us as we advance our understanding of the causes and improve the clinical management of thyroid diseases in this era of rapid pace biomedical discovery.
- A close-knit, collegial group of physicians and scientists, the ATA is dedicated to the reseach and treatment of thyroid diseases. ATA's rich history dates back to 1923 and its members are respected worldwide as leaders in thyroidology.
- The ATA encourages you to apply for membership. We want you to experience the wealth of knowledge and enjoy the benefits of being active in this highly specialized and regarded society. The ATA looks forward to having you as a member!