



**THYROID CANCER**

**Aggressive types of thyroid cancer are becoming more common and differ from one another in how dangerous they may be**

**BACKGROUND**

The number of people diagnosed with thyroid cancer in the United States has been increasing steadily over the last several decades. Fortunately, most cases of this disease will be a non-aggressive subtype, called classical papillary thyroid cancer, which, when treated correctly, is very unlikely to be dangerous. This being said, there are other, less common forms of thyroid cancer that are more dangerous than papillary thyroid cancer. These more aggressive thyroid cancer subtypes tend to grow faster and spread (metastasize) to other parts of the body sooner. Such aggressive cancer subtypes include diffuse sclerosing variant, tall cell variant, poorly differentiated thyroid cancer and insular variant.

There are a number of important questions about these uncommon, more aggressive thyroid cancer subtypes that remain to be answered. Unlike classical papillary thyroid cancer, we do not know for sure if the number of people diagnosed with these thyroid cancer types is increasing over time. We also do not know exactly how dangerous these cancer types are, at least compared to classical papillary thyroid cancer. The study described here tries to answer these two questions by evaluating the medical records of large groups of people previously treated for thyroid cancer. By answering these questions, the study authors hope to better understand aggressive types of thyroid cancer and, in particular, to get a better idea of how to treat them.

**FULL ARTICLE TITLE**

Ho AS et al 2020 Incidence and mortality risk spectrum across aggressive variants of papillary thyroid carcinoma. JAMA Oncol. Epub 2020 Mar 5. PMID: 32134428.

**SUMMARY OF THE STUDY**

The study authors reviewed the medical records of people who were treated for any kind of thyroid cancer in the United States during the 16 year period between 2000 and

2016. These medical records were identified by examining two large data bases that store information about people being treated for cancer, including the U.S. National Cancer Data Base and the U.S. Surveillance, Epidemiology, and End Results (SEER) data base. In the end, the authors found 5,447 cases of aggressive subtype thyroid cancer, compared to 35,812 cases of classical papillary thyroid cancer. They also found that these aggressive cancer types became increasingly more common during the 16 year study period and that the number of aggressive type thyroid cancer cases grew faster than the number of classical papillary thyroid cancer cases diagnosed in the same timeframe. Similarly, the authors learned that the aggressive subtype thyroid cancers identified were, on average, bigger than the classical papillary thyroid cancer type and were more likely to spread into both neighboring tissues and to other parts of the body. In addition, when the aggressive thyroid cancer types were evaluated individually, the study team found that the four thyroid cancer types evaluated were not equally dangerous. The insular variant type was found to be the most dangerous, with the lowest survival rate, followed by poorly differentiated thyroid cancer, tall cell variant and, least dangerous, diffuse sclerosing variant. In fact, the overall rate of survival for people diagnosed with diffuse sclerosing variant was similar to those diagnosed with classical papillary thyroid cancer, suggesting that the diffuse sclerosing variant subtype may not be particularly dangerous.

**WHAT ARE THE IMPLICATIONS OF THIS STUDY?**

The study authors concluded that aggressive thyroid cancer types are becoming increasingly common and confirmed that 3 of the 4 aggressive cancers are more dangerous than classical papillary thyroid cancer. The diffuse sclerosing variant was found to be similar to the classical papillary thyroid cancer. Moreover, these investigators found that the rate at which these cancer types





## THYROID CANCER, continued

are being diagnosed is growing faster than that of other classical papillary thyroid cancer. The findings of this study are important because they alert us that relatively aggressive forms of thyroid cancer appear to be increasing-

ly common and need to be treated more aggressively when diagnosed. Additionally, more studies are needed into how and why these thyroid cancer subtypes develop.

— Jason D. Prescott, MD PhD

### ATA THYROID BROCHURE LINKS

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

### ABBREVIATIONS & DEFINITIONS

**Papillary thyroid cancer:** the most common type of thyroid cancer. There are several variants of papillary thyroid cancer: classic and follicular are generally non-aggressive while tall-cell, diffuse sclerosing and insular variants are more aggressive. Recently, the noninvasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP) variant has been described that may be a pre-cancer.

**Poorly differentiated thyroid cancer:** a less common form of thyroid cancer that can't be clearly identified as papillary or follicular. It appears to be a more aggressive subtype 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.

**SEER:** Surveillance, Epidemiology and End Results program, a nation-wide anonymous cancer registry generated by the National Cancer Institute that contains information on 26% of the United States population. Website: <http://seer.cancer.gov/>