



## THYROID CANCER

### FDG-PET-positive thyroid incidentalomas

#### BACKGROUND

Thyroid nodules are common. Further, it is common that thyroid nodules are found on imaging studies of the neck done for other reasons. PET scans are one common imaging study that identifies thyroid nodules when looking for other cancers. Nodules/masses that are PET-positive are concerning for cancer.

In 1–2% of PET scans performed for the diagnosis or staging of non-thyroid cancers, incidental uptake of a thyroid lesion is detected. Since 30–40% of these PET-positive lesions are found to be thyroid cancer, current American Thyroid Association guidelines recommends biopsy of all PET-positive nodules >1cm that are not definitively benign on a diagnostic thyroid ultrasound. However, there has not been a large study looking at the prognosis of these thyroid cancers that are identified incidentally on PET imaging.

#### THE FULL ARTICLE TITLE

Pattison DA et al. 18F-fluorodeoxyglucose-avid thyroid incidentalomas: the importance of contextual interpretation. *J Nucl Med* 2017;Oct 12:p11: jnumed.117.198085 [Epub ahead of print].

#### SUMMARY OF THE STUDY

The study assessed both overall survival and thyroid cancer specific survival in patients that had a thyroid cancer diagnosed incidentally on a PET scan. The

authors performed a retrospective review of 45,000 PET scans performed for non-thyroid cancer at a single institution over a 10 year period. They identified 500 patients with a PET-positive thyroid incidentaloma and of these, 362 had follow-up data and were the population studied. Of the 131 patients that had a thyroid biopsy, 36% had a thyroid cancer (of which 4 were confirmed spread from the primary cancer). Of the 180 deaths during the study period with a median f/u of 24 months, only 1 was from a medullary thyroid cancer; the majority were from the primary cancer for which the PET-CT was performed initially.

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

PET-positive thyroid nodules detected incidentally on scans performed for another primary malignancy have little impact on short-term (1–4 year) survival for these patients with more advanced non-thyroid malignancies. This suggests and affirms that when these lesions are detected incidentally, treatment of the primary cancer is more important. If there is concern for spread of the cancer to the thyroid that would change management of the primary cancer, then early biopsy of the thyroid nodule is warranted; if not, biopsy and treatment can likely wait until the patient is doing well from their primary cancer and active surveillance is a reasonable strategy for these lesions.

— Melanie Goldfarb, MD

#### ATA THYROID BROCHURE LINKS

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

Fine Needle Aspiration Biopsy of Thyroid Nodules: <https://www.thyroid.org/fna-thyroid-nodules/>

Thyroid Nodules: <https://www.thyroid.org/thyroid-nodules/>

#### ABBREVIATIONS & DEFINITIONS

**Thyroid nodule:** an abnormal growth of thyroid cells that forms a lump within the thyroid. While most

thyroid nodules are non-cancerous (Benign), ~5% are cancerous.





## THYROID CANCER, continued

**Thyroid Ultrasound:** a common imaging test used to evaluate the structure of the thyroid gland. Ultrasound uses soundwaves to create a picture of the structure of the thyroid gland and accurately identify and characterize nodules within the thyroid. Ultrasound is also frequently used to guide the needle into a nodule during a thyroid nodule biopsy.

**Thyroid fine needle aspiration biopsy (FNAB):** a simple procedure that is done in the doctor's office to determine if a thyroid nodule is benign (non-cancerous) or cancer. The doctor uses a very thin needle to withdraw cells from the thyroid nodule. Patients usually return home or to work after the biopsy without any ill effects.

**Cancer metastasis:** spread of the cancer from the initial organ where it developed to other organs, such as the lungs and bone.

**<sup>18</sup>F-2-fluoro-2-deoxy-d-glucose-positron emission tomography (FDG-PET):** a nuclear medicine imaging test that uses a small amount of radiolabeled glucose to identify cancer. Since cancer cells are more active than normal cells, the cancer cells take up more of the radiolabeled glucose and show up on the FDG-PET scan. FDG-PET scans are frequently combined with CT scans to accurately identify where the cancer is located. Its role in thyroid cancer is still being studied.

**Incidentaloma:** an abnormal finding on an imaging test that was not clinically identified prior to doing the test and that was unrelated to the reason the imaging test was performed. Examples of incidentalomas are thyroid nodules on neck imaging and adrenal nodules on abdominal imaging.

## Thyroid Awareness Monthly Campaigns

The ATA will be highlighting a distinct thyroid disorder each month and a portion of the sales for Bravelets™ will be donated to the ATA. The month of **February** is **Medullary Awareness Month** and a bracelet is available through the **ATA Marketplace** to support thyroid cancer awareness and education related to thyroid disease.

