



THYROID CANCER

Calcitonin normalizes within 1 week after surgery in most patients with node-negative medullary thyroid cancer

BACKGROUND

Medullary thyroid cancer is a relatively rare type of thyroid cancer that often runs in families. In contrast to papillary and follicular thyroid cancer, which arise from the thyroid follicular cells, medullary thyroid cancer arises from the parafollicular cells (commonly known as C-cells) in the thyroid. The C-cells produce the hormone calcitonin, which has a minor effect on blood calcium levels. Calcitonin levels are also increased in patients with medullary thyroid cancer. Calcitonin can be measured as a blood test to help diagnose medullary thyroid cancer and its level can indicate the amount of medullary thyroid cancer present before thyroid surgery. After surgery, calcitonin can be used as a cancer marker to help determine if any cancer cells are remaining. If calcitonin levels normalize after surgery, it suggests that the cancer has not spread outside of the thyroid. Typically, calcitonin is measured about 3 months after thyroid surgery for medullary thyroid cancer. This study was designed to check how long it takes calcitonin to normalize after successful medullary thyroid cancer surgery.

THE FULL ARTICLE TITLE

Machens A et al 2019 Time to calcitonin normalization after surgery for node-negative and node-positive medullary thyroid cancer. *Br J Surg* 106:412-418. Epub 2019 Feb 6. PMID: 30725475.

SUMMARY OF THE STUDY

The medical records of patients who had surgery for medullary thyroid cancer at a University teaching hospital in Germany between 1994 and 2018 were studied. Only those patients who did not need a second surgery had their information included in the study. Calcitonin levels

were measured before surgery and at the time of discharge from the hospital which was 3-6 days after the operation. A little over 6 out of 10 patients had normal calcitonin levels on the day of discharge from the hospital, which was 4 days after surgery on average. The other patients had more aggressive cancer, bigger surgeries and were in the hospital a little over 6 days on average. The patients with normalized calcitonin levels were more often women, had lower calcitonin levels before surgery (545 vs 9513 pg/mL), had smaller cancers (about 1 cm compared to about 2.5cm) and had fewer lymph nodes with medullary thyroid cancer in them (1 vs 17). The more lymph nodes removed with medullary thyroid cancer in them was associated with a longer time to calcitonin normalization after the surgery (as long as 50+ days on average if more than 10 lymph nodes had disease).

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

Patients who do not have lymph node involvement with medullary thyroid cancer often have normal calcitonin levels by 5 days after surgery. The more lymph nodes containing medullary thyroid cancer there are, the longer time it takes for the calcitonin to normalize, even if all of the disease is removed. These findings are important to patients as they may be reassured within a week after surgery for medullary thyroid cancer with negative calcitonin measurements. Patients may not have to wait 3 months to gain information on the presence or absence of medullary thyroid cancer after surgery. It is important that patients understand that even if the calcitonin is detectable early after medullary thyroid cancer surgery, it may normalize over time.

— Joshua Klopper, MD

ATA THYROID BROCHURE LINKS

Thyroid Cancer (Medullary): <https://www.thyroid.org/medullary-thyroid-cancer/>





THYROID CANCER, continued

ABBREVIATIONS & DEFINITIONS

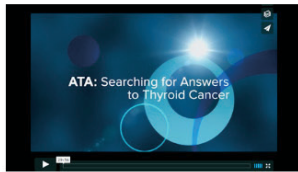
Medullary thyroid cancer: a relatively rare type of thyroid cancer that often runs in families. Medullary cancer arises from the C-cells in the thyroid.

Calcitonin: a hormone that is produced in humans by the parafollicular cells (commonly known as C-cells) of the thyroid gland. Calcitonin has a minor effect on

blood calcium levels. Calcitonin levels are increased in patients with medullary thyroid cancer.

Lymph node: bean-shaped organ that plays a role in removing what the body considers harmful, such as infections and cancer cells.

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