



## THYROID CANCER

### Survivors of pediatric thyroid cancer have good quality of life

#### BACKGROUND

Most thyroid cancer arises from cells that make thyroid hormone, known as follicular thyroid cells. When it occurs in people younger than 18 years, is considered pediatric thyroid cancer. The number of cases of thyroid cancers is increasing, although the survival is excellent. Initial treatment usually involves the removal of the thyroid gland. As the thyroid concentrates iodine, if additional treatment is needed, it usually involves the administration of radioactive iodine to destroy the remaining cancer cells. Patients then need life-long follow up. The surgery may have complications.

Adult survivors of thyroid cancer have reported low health-related quality of life (QoL), while studies done in adolescents have reported no difference as compared to controls. Little is known about the long term quality of life of survivors of pediatric thyroid cancer. This study was done to study the quality of life of adult survivors who were diagnosed with thyroid cancer between the ages of 7 and 18 years.

#### THE FULL ARTICLE TITLE

Nies M et al. Long-term quality of life in adult survivors of pediatric differentiated thyroid carcinoma. *J Clin Endocrinol Metab* (2017) 102 (4): 1218-1226.

#### SUMMARY OF THE STUDY

This study included patients treated for thyroid cancer in the Netherlands between 1970 and 2013 who had a diagnosis of thyroid cancer made when they were younger than 18 years. Each participant was asked to recruit one person of similar age and sex without history of cancer, to be a control participant, best if of similar socio-economic status. If this was not possible, they were instructed to recruit a brother or sister. The participants answered four questionnaires of quality of life. One of the questionnaires (THYCA-QoL) was answered only by the patients with history of cancer as it is designed for survivors of thyroid cancer. Questionnaires assessed physical functioning, limitations due to physical problems, bodily pain, general health, vitality, social functioning, limitations due to emotional problems, and mental aspects of mental aspects of fatigue, motivation, and activity, depression and anxiety.

There were 170 patients with a history of pediatric thyroid cancer who were identified in the survey and 105 patients were available for the present study. Of these, only 67 were included for a variety of reasons. The average age of the patients was 34.2 years (range 18.8- 61.7 years) and they were followed for ~18 years. All patients had their thyroid removed completely and almost all (97%) received radioactive iodine therapy. Of these, 82% of patients were in remission of their cancer during their follow-up, with 10% having recurrent thyroid cancer and 7% having persistent thyroid cancer. Most patients were women (87%), were employed or were full-time students (90%) and were married or in a relationship (65%).

On most scales, survivors and controls did not differ; however, survivors reported more physical problems and limitations due to physical problems and mental fatigue. No differences were noted in anxiety and depression. The THYCA-QoL questionnaire identified that 84% of survivors did not have problems with their thyroid scar, 51-70% denied problems with symptoms related to low thyroid levels and 12% indicated not having interest in sex. Male survivors had higher levels of reduced motivation and depression as compared to females. Patients with recurrent or persistent thyroid cancer reported more symptoms and headaches were associated with higher doses of radioactive iodine. Unemployment was also associated with less QoL.

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

This study confirms the good prognosis of pediatric thyroid cancer after 18 years of follow up, as only 1 out of 170 patients had died,. Although the study has some limitations, the data is encouraging as most patients were studying or working and were in relationships. It is also reassuring that there were no differences in anxiety or depression, social functioning, bodily pain, mental health, emotional problems or vitality, although some survivors reported less physical functioning and limitations due to physical functioning. It is unclear whether this could be associated with under-treatment or over-treatment of low thyroid hormone levels or low calcium levels. This study helps the providers caring for patients with pediatric thyroid cancer to reassure them about their future.

— Liuska Pesce, MD



## THYROID CANCER, continued

### ATA THYROID BROCHURE LINKS

Radioactive Iodine: <http://www.thyroid.org/radioactive-iodine/>

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

Thyroid Surgery: <http://www.thyroid.org/thyroid-surgery/>

Thyroid Hormone Treatment: <http://www.thyroid.org/thyroid-hormone-treatment/>

### ABBREVIATIONS & DEFINITIONS

**Hypothyroidism:** a condition where the thyroid gland is underactive and doesn't produce enough thyroid hormone. Treatment requires taking thyroid hormone pills.

**Thyroidectomy:** surgery to remove the entire thyroid gland. When the entire thyroid is removed it is termed a total thyroidectomy. When less is removed, such as in removal of a lobe, it is termed a partial thyroidectomy.

**Levothyroxine (T<sub>4</sub>):** the major hormone produced by the thyroid gland and available in pill form as Synthroid™, Levoxyl™, Tyrosint™ and generic preparations.

**Thyroid hormone therapy:** patients with hypothyroidism are most often treated with Levothyroxine in order to return their thyroid hormone levels to normal. Replacement therapy means

the goal is a TSH in the normal range and is the usual therapy. Suppressive therapy means that the goal is a TSH below the normal range and is used in thyroid cancer patients to prevent growth of any remaining cancer cells.

**Radioactive iodine (RAI):** this plays a valuable role in diagnosing and treating thyroid problems since it is taken up only by the thyroid gland. I-131 is the destructive form used to destroy thyroid tissue in the treatment of thyroid cancer and with an overactive thyroid. I-123 is the non-destructive form that does not damage the thyroid and is used in scans to take pictures of the thyroid (Thyroid Scan) or to take pictures of the whole body to look for thyroid cancer (Whole Body Scan).

**Parathyroid glands:** usually four small glands located around the thyroid that secrete parathyroid hormone (PTH) which regulates the body's calcium levels.

