



## THYROID CANCER

# Advanced thyroid cancer patients can have a prolonged response to lenvatinib

### BACKGROUND

Most patients with thyroid cancer respond to the standard treatment consisting of surgery followed by radioactive iodine therapy and have excellent results, with 10 year survival rates in the 95+% range. However, 3–5% of thyroid cancer patients have progressive cancer after the initial treatment, requiring alternative therapies. Until recently, there was little to offer these patients in terms of chemotherapy. However, 2 chemotherapy drugs from the tyrosine kinase inhibitor (TKI) group, sorafenib and lenvatinib, have been shown to delay the cancer progression and have been approved to be used for patients with persistent and progressive thyroid cancer not responding to radioactive iodine therapy. The TKI therapy is promising, despite many significant side effects. Importantly, patients taking lenvatinib appear to have a lower risk to develop resistance to treatment as compared to sorafenib. Therefore, this medication may remain effective for a prolonged period.

Lenvatinib was approved based on the results of the SELECT clinical trial, which showed that this medication stopped the cancer progression for a longer time as compared to no drug (18 vs. 4 months). Additional data was collected in the SELECT study over the next three years of follow-up to update the initial analysis of the effect of lenvatinib. The aim of this study was to evaluate the duration of response to lenvatinib, which is defined as the time from when the cancer responded to treatment to when the disease started to progress again.

### THE FULL ARTICLE TITLE

Gianoukakis AG et al 2018 Prolonged duration of response in lenvatinib responders with thyroid cancer. *Endocr Relat Cancer* 6:699–704. PMID: 29752332

### SUMMARY OF THE STUDY

The SELECT study included 392 patients with thyroid cancer not responding to radioactive iodine therapy and

progressing within the previous 13 months. Patients were randomly assigned 2:1 to receive 24 mg of oral lenvatinib daily (261 patients) or no drug (placebo, 131 patients) until the cancer started to progress, the patients developed an unacceptable toxicity to the treatment, or the patients withdrew from the study. The data collected prior to November 15, 2013 was used for the initial analysis. After this, the patients in the placebo group who had progressive cancer could choose to receive lenvatinib treatment.

Additional data collected over the next three years until September 1, 2016 was used for the current study. A total of 157 patients (60%) had a complete or partial response to the lenvatinib treatment. The patients who responded to lenvatinib had stable disease for an average of 30 months. The duration of the response to treatment appeared to be shorter in patients with large cancer and for patients with spread of the cancer to the liver or brain. The duration of the response to treatment was similar for patients who had received one prior cancer therapy and those who had never received therapy prior to the study. A total of 80% of lenvatinib-treated patients experienced serious treatment-related adverse events, most of them occurring early in the course of treatment.

### WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This updated analysis confirmed that lenvatinib can delay the progression of thyroid cancer in patients not responding to radioactive iodine therapy and further showed that the patients who responded to lenvatinib could have a prolonged, durable effect, lasting for approximately 30 months. More than half of patients may respond to this treatment. Since most patients experienced side effects from the lenvatinib, early recognition and adequate treatment of the side effects is especially important to allow treatment continuation.

— Alina Gavrila, MD, MMSC





## THYROID CANCER, continued

### ATA THYROID BROCHURE LINKS

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

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

### ABBREVIATIONS & DEFINITIONS

**Thyroid cancer:** includes papillary and follicular cancer and overall has a favorable prognosis.

**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.

**Tyrosine kinases:** proteins that are overactive in many of the pathways that cause cells to be cancerous. Tyrosine kinase inhibitors (TKIs) are medications that block the action of these proteins, thus preventing cancer progression.

**Cancer recurrence:** outcome when the cancer comes back after an initial treatment that was successful in destroying all detectable cancer at some point.

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

**Randomized study:** a study in which the participants are divided by chance into groups to receive the treatment under investigation (test group) versus standard or placebo treatment (control group). This ensures that the groups are similar and allows a fair evaluation of the effects of a new treatment as compared to the standard treatment or no treatment (placebo) group.

**Placebo:** an inactive substance like water or sugar, which is given to study patients in the control group instead of the real medication to better evaluate the effects of a new medication and separate these effects from the natural disease progression without treatment.

