



THYROID CANCER

Immune checkpoint inhibitor therapy using spartalizumab for anaplastic thyroid cancer

BACKGROUND

In contrast to the common types of thyroid cancer, anaplastic thyroid cancer is a rare, aggressive form of thyroid cancer which can be rapidly progressive and fatal. Depending on the extent of cancer and the goals of the cancer treatment (in considering the patient's overall health and preferences), treatment options for anaplastic thyroid cancer may include surgery, external beam radiation treatment, chemotherapy, or combinations of those. However, survival rates of patients with anaplastic thyroid cancer are generally very low, with survival often <6 months after diagnosis, and more research is needed for effective treatments that can improve survival.

Immune checkpoint inhibitor therapy is a type of cancer treatment that stimulates the body's immune system to fight the cancer, and it is used for a variety of cancers. Spartalizumab is an example of an immune checkpoint inhibitor and it is an antibody which blocks the programmed death-1 and 2 (PD-1 and PD-2) receptors on the surface of immune T cells, which then stimulates immune cells to attack cancer cells. Since anaplastic thyroid cancer cells often express the binding protein that attaches to the PD-1 receptor (programmed cell death-ligand 1 (PD-L1)), spartalizumab may be an effective treatment for this aggressive cancer. The investigators of the study performed a clinical trial to examine the clinical response of anaplastic thyroid cancer patients treated with spartalizumab. The investigators reported on the response of the tumors, survival of patients and side of the treatment.

THE FULL ARTICLE TITLE

Capdevila J et al PD-1 Blockade in Anaplastic Thyroid Carcinoma. *J Clin Oncol.* 2020 38:2620-2627. doi: 10.1200/JCO.19.02727.

SUMMARY OF THE STUDY

The investigators performed a phase II international multicenter study of Spartalizumab in 42 patients with locally advanced or metastatic anaplastic thyroid cancer. Of these patients, 60% had prior cancer drug treatment, 71% had

prior radiation treatment, and 67% had prior thyroid cancer surgery (thyroidectomy with or without removal of lymph nodes). Both the patients and their doctors were aware of the treatment given. The study was funded by the manufacturer of the drug, Novartis. There was no comparison group, so all of the patients received the drug under study. The drug was given intravenously every 4 weeks, but could be held or stopped if there was toxicity (serious side effects). The primary outcome was the overall response rate according to Response Evaluation Criteria in Solid Tumors (RECIST). The average duration of study treatment was 8 weeks, but ranged from about 2 to 114 weeks.

The overall response rate was 19%, which included 3/42 patients (7% of the entire study population) who had a complete response (disappearance of cancer lesions that were measured at the beginning of the study) and 5/42 patients (12%) of patients who had a partial response (some reduction in the amount of cancer seen on imaging, but some visible cancer on scans). Of the 40 patients whose cancers could be evaluated for PD-L1 expression, 28/40 (70%) expressed this marker at baseline. Further, only the patients whose cancers expressed PD-L1 (8/28, 29%) responded to the drug as none of the patients whose cancers did not express PD-L1 (0/12) responded. The overall survival rate was 5.9 months, with 40% of patients alive at one year. Adverse events were reported in 41/42 (98%) of patients and more serious adverse events were reported in 29/42 patients (69%).

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study shows that a subset of patients with anaplastic thyroid cancer had a significant response to spartalizumab, particularly those patients whose cancers expressed PD-L1. Further, the treatment was generally well-tolerated by patients and the side effects were similar to those seen in other clinical trials of drugs in this class. This is exciting news for patients newly diagnosed with anaplastic thyroid cancer. It will be important to confirm these findings in other studies.

— Anna M. Sawka, MD, PhD





THYROID CANCER, continued

ATA THYROID BROCHURE LINKS

Anaplastic Thyroid Cancer: <https://www.thyroid.org/anaplastic-thyroid-cancer/>

ABBREVIATIONS & DEFINITIONS

Anaplastic thyroid cancer: a very rare but very aggressive type of thyroid cancer. In contrast to all other types of thyroid cancer, most patients with anaplastic thyroid cancer die of their cancer.


Clinical trials: when a new drug is developed, it must undergo an extensive series of steps, called phases, to prove that it is more effective in patients than the drugs that are currently available to treat the condition. A Phase I trial tests a new drug or treatment in a small group of people for the first time to evaluate its safety, determine a safe dosage range and identify side effects. A Phase II trial gives the drug to a larger group of people to see if it is effective and to further evaluate its safety. A Phase III

trial gives the drug to large groups of people to confirm its effectiveness, monitor side effects, compare it to commonly used treatments and collect information that will allow the drug or treatment to be used safely.

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.

RECIST: Response Evaluation Criteria in Solid Tumors — this is a set of published rules that define when cancer patients improve (“respond”), stay the same (“stable”) or worsen (“progression”) during treatments.

SEPTEMBER
Thyroid Cancer
Awareness Month

 AMERICAN THYROID ASSOCIATION
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