

Drug that targets vasculature growth attacks aggressive thyroid cancer

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A medication that helps stop the growth of new blood vessels has produced dramatic benefits for some patients with aggressive thyroid cancer, research from Mayo Clinic indicates.

At the annual meeting of the American Society of Clinical Oncology (ASCO), Mayo investigators report that cancer in about two-thirds of 37 patients with aggressive differentiated thyroid cancer treated with the drug pazopanib either stopped growing, or quickly shrank.

The patient responses seen to date are promising, the researchers say, because all patients had fast-growing cancers that had spread to their lungs, with half involving <u>lymph nodes</u> and 39 percent also involving bones.

"The benefits were striking in many patients to a degree we have not previously seen in thyroid cancer in response to other therapies, including the standard treatment of radioiodine," says Keith Bible, M.D., Ph.D., a medical oncologist and researcher who led the multicenter clinical trial funded by the National Cancer Institute. Most of the patients treated were enrolled at the Mayo Clinic campuses in Minnesota and Florida.

Approximately one-third of patients achieved sustained and dramatic benefit from pazopanib, while another one-third experienced stabilization of their cancer or some tumor shrinkage. The remaining onethird of patients did not benefit from the drug. The agent was also well



tolerated by the majority of patients, Dr. Bible adds.

What is not yet known, however, is the drug's effect on overall survival. "We need more time to establish that definitively," says Dr. Bible. "The trial has been going on for just over a year, and some of our patients are still maintaining a response, while others have not been in the study long enough for us to confirm duration of response." He notes that of the 37 original trial participants, two have died — one from cancer progression and another from other causes.

The National Cancer Institute estimated that 37,340 new cases of thyroid cancer would be diagnosed in 2008, with 1,590 deaths from the cancer. The cancer is much more common in women; it is the seventh most common cancer in women in the U.S. The occurrence of thyroid cancer has recently been rising.

Most thyroid cancers are of two major "differentiated" types — papillary thyroid cancer (the most common, accounting for 75 percent of cases) and follicular thyroid cancer (15 percent).

Fortunately, most patients with thyroid cancer respond well to surgery and to follow-up treatment with radioiodine; even if the cancer recurs and spreads, the disease progresses slowly in most patients, Dr. Bible says. "Many patients do well for a long time without the need of additional therapy," he says. However, about 5 percent of these patients experience rapidly progressing life-threatening disease that is insensitive to radioiodine and other treatment approaches. "Until only recently, we have not had any effective therapies for such patients."

Pazopanib is an experimental agent that is also being studied in advanced kidney, ovarian and other cancers. The drug, administered in pill form, targets proteins involved in angiogenesis, the growth of new <u>blood</u> <u>vessels</u> that has a critical role in the growth and spread of tumors. The



proteins that pazopanib targets include vascular endothelial growth factor receptor (VEGFR), platelet-derived growth factor receptor (PDGFR), c-kit and Ret.

Mayo investigators are also leading clinical trials to test pazopanib in two other thyroid cancer subtypes -medullary, which does not respond to radioiodine, and anaplastic, the most aggressive subtype.

Dr. Bible says plans are also under way to test pazopanib in a larger, controlled and randomized clinical trial of patients with advanced differentiated thyroid cancer. Researchers want to more accurately assess benefits and risks.

Source: Mayo Clinic (<u>news</u> : <u>web</u>)

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