New Targeted Hormone-Radiation Treatment Slows Growth of Midgut Neuroendocrine Tumors

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ASCO Perspective

“It’s exciting to see a novel therapy have such a significant effect on tumor growth, particularly for these patients who have limited treatment options,” said Smitha Krishnamurthi, MD, ASCO Spokesperson and moderator of today’s presscast.

ALEXANDRIA, Va. – Early results from a phase III study of patients with previously treated, advanced midgut neuroendocrine tumors show that a novel therapy, \( ^{177} \text{Lutetium-DOTATATE} \) (Lutathera), may substantially slow tumor growth. Patients treated with the experimental drug had a 79% lower risk of disease progression or death compared to those treated with octreotide LAR 60 mg every four weeks. The study will be presented at the upcoming 2016 Gastrointestinal Cancers Symposium in San Francisco.

“Our results indicate that Lutathera appears to be a safe and effective treatment option. On average, tumors responded to the drug for several years before they began growing again,” said lead study author Jonathan R. Strosberg, MD, a medical oncologist at the Moffitt Cancer Center in Tampa, FL. “The new therapy is also more convenient – it requires only four treatments, as opposed to medications that patients have to take daily over long periods of time.”

\( ^{177} \text{Lutetium-DOTATATE} \) belongs to a new class of drugs known as Peptide Receptor Radionuclide Therapy (PRRT), which combine hormone therapy and radiotherapy. In the case of \( ^{177} \text{Lutetium-DOTATATE} \), a somatostatin analog is attached to a radioactive molecule, enabling targeted delivery of cancer-killing radiation to tumors.

Most patients with metastatic midgut neuroendocrine tumors (i.e., those that begin in the small intestine and proximal colon) receive hormone therapy with a somatostatin analog, such as octreotide or lanreotide. There are currently no effective systemic second-line treatment options for
patients with tumors that stop responding to somatostatin analogs.

According to the authors, this is the first prospective, randomized trial to evaluate the efficacy of $^{177}$Lutetium-DOTATATE in patients with advanced midgut neuroendocrine tumors. All 230 trial participants had advanced tumors that worsened despite first-line somatostatin analog therapy. The patients were randomly assigned to treatment with $^{177}$Lutetium-DOTATATE or high-dose octreotide LAR.

At the time of data analysis, 23 patients in the $^{177}$Lutetium-DOTATATE group experienced disease progression, compared to 67 in the octreotide LAR group. The median progression-free survival was eight months in the octreotide LAR group and was not reached in the $^{177}$Lutetium-DOTATATE group.

The preliminary findings of the study also suggest that $^{177}$Lutetium-DOTATATE may extend patient survival. There were substantially fewer deaths in the $^{177}$Lutetium-DOTATATE group vs. the standard care group (13 vs. 22). However, longer follow-up is needed to determine the definitive impact of $^{177}$Lutetium-DOTATATE on long-term survival.

Overall, the numbers of adverse events, including serious side effects, were similar between the two treatment groups. Octreotide often causes gas and bloating and can lead to development of gallstones with long-term use. $^{177}$Lutetium-DOTATATE can cause low blood cell counts, which are usually transient.

Neuroendocrine tumors are a group of cancers that begin in hormone-producing (neuroendocrine) cells of various organs in the body. Each year about 8,000 people in the United States are diagnosed with a neuroendocrine tumor of the gastrointestinal tract. While they are rare overall, the incidence of neuroendocrine tumors is on the rise.

This study received funding from Advanced Accelerator Applications (AAA).


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- Interactive History of Cancer Advances

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