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Patient Characteristics and Treatment Patterns With [177Lu]Lu-DOTA-TATE (177Lu-DOTATATE) In the US: A Real-World Assessment

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BACKGROUND

¹⁷⁷Lu-DOTATATE is a radiolabeled somatostatin analog (SSA) approved for the treatment of somatostatin receptor-positive gastroenteropancreatic neuroendocrine tumors (GEP-NETs) by the US Food and Drug Administration in January 2018 and has recently been indicated as first-line treatment. ¹⁷⁷Lu-DOTATATE is administered every 8 weeks for a total of 4 cycles. Phase III trials have demonstrated that ¹⁷⁷Lu-DOTATATE significantly improves clinical outcomes versus standard of care in patients with GEP-NETs. The aim of this study is to describe real-world ¹⁷⁷Lu-DOTATATE treatment patterns in the US.

METHODS

This was a real-world study of patients treated with ¹⁷⁷Lu-DOTATATE using data from the open-source IQVIA Longitudinal Prescription and Patient Centric Medical Claims databases between 1 July 2017–28 February 2025. Demographics and clinical characteristics were assessed 6 months prior to index date (¹⁷⁷Lu-DOTATATE initiation). Treatment patterns, including number of ¹⁷⁷Lu-DOTATATE cycles, treatment discontinuation, treatment switch/addition, treatment extension (>4 cycles), and ¹⁷⁷Lu-DOTATATE retreatment (following progression) were assessed from index date until the end of follow-up. Results were evaluated descriptively.

RESULTS

In total, 3,410 patients treated with ¹⁷⁷Lu-DOTATATE, with a mean (standard deviation) age of 64.9 (12.3) years, were included. Common comorbidities included hypertension (38.4%), liver, gallbladder and pancreatic diseases (29.0%), and diabetes (24.4%). Patients at ¹⁷⁷Lu-DOTATATE initiation had liver (67.0%), gastrointestinal (16.5%), lymph node (19.7%), lung (4.6%) and brain (1.1%) metastases. Prior systemic treatments were received by 67.6% of patients (SSAs [62.1%], chemotherapy [7.5%], targeted therapy [6.2%], immunotherapy [0.2%]). Patients received a median (range) of 4 (1–8) ¹⁷⁷Lu-DOTATATE cycles with median (range) time between cycles being 8.1 (0.1–221.3) weeks. Among patients with <4 cycles, 29.3% discontinued treatment within a median (range) of 16.0 (8.0–41.0) weeks. Patients who switched treatment (n=200; 5.9%) mostly switched to chemotherapy (54.0%) or targeted therapy (34.5%). Furthermore, 89 (2.6%) patients extended ¹⁷⁷Lu-DOTATATE treatment (>4 cycles), with a median (range) of 2 (1–4) additional cycles, while 241 (7.1%) patients received ¹⁷⁷Lu-DOTATATE retreatment after progression, with a median (range) of 3 (1–7) cycles following the progression event.

CONCLUSIONS

These data show that real-world use of ^{177}Lu -DOTATATE has high patient adherence, with most patients receiving 4 cycles of treatment at 8-week intervals, consistent with the label indication. Patients are receiving retreatment with ^{177}Lu -DOTATATE in clinical practice, and some patients are receiving >4 cycles. Additional research is necessary to assess the outcomes of these patients in the real world.

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