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First-line Treatment with [177Lu]Lu-edotreotide ([177Lu]Lu-DOTATOC) in patients with NETs: a SwissNET Registry Analysis

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BACKGROUND

SwissNET registry, founded in 2008, is a continuous, systematic prospective data collection from patients diagnosed with NETs in Switzerland who consented to participation. There is limited real-world data available regarding first-line ^{177}Lu-edotreotide treatment. Therefore, the purpose of this analysis was to determine the effectiveness of ^{177}Lu-edotreotide in a systemic first-line treatment setting in adult patients with metastatic, well-differentiated, and somatostatin receptor-positive NETs.

METHODS

^{177}Lu-edotreotide was prepared on-site as a “magistral preparation” in accordance with GMP regulations and national Swiss laws. Patients were required to be naïve to anti-cancer systemic therapy, or with less than six months use of somatostatin analogs, without progression documentation. The primary endpoint was real-world progression-free survival (rwPFS), defined as time from start of treatment with ^{177}Lu-edotreotide (i.e., date of the first administration) until the date of first objective report of tumor progression (defined as radiological progression or change of treatment modality) or death, whichever occurred first. Secondary endpoints included overall survival (OS), real-world objective response rate (rwORR; response was determined by composite radiological, biochemical, and clinical judgement), real-world duration of response (rwDoR), real-world disease control rate (rwDCR), and real-world duration of disease control (rwDDC).

RESULTS

There were 104 patients reported with first-line treatment, with a mean age of 63.3 (±13.2) years (28-86 years, 50 female/54 male), with data collected up to July 2024. Patients were followed for 4.1 years on average. The distribution of tumor origin was: 48% GI-NET, 4% lung NET, 33% pancreatic NET, 14% unknown primary NET, 2% other NET, with 29, 66, and 9 patients having tumor grade G1, G2 and G3, respectively. 84% of the patients had liver metastases. 37% had functional NETs (62% non-functional, 2% unknown).

Treatment Data and Efficacy Results

Median rwPFS	23.1 (15.5-32.0) months
Median OS	75.8 (60.3-87.4) months
rwORR	29.6% (20.8%-39.7%)
Median rwDoR	27.3 (9.2-not estimable) months
rwDCR	83.7% (74.8%-90.4%)
Median rwDDC	26.8 (15.9-42.2) months
Median number of ^{177}Lu-edotreotide cycles	4 (1-5 cycles)
Median interval between cycles (minimum interval)	10.0 (7.3) weeks
Median activity per cycle	7.12 (3.70-7.47) GBq

Of 98 patients with a response assessment, a complete response was observed in seven, a partial response in 22 patients. OS was generally longer in patients with non-functional tumors.

CONCLUSIONS

This is the first report of first-line treatment with ^{177}Lu-edotreotide in a real-world population. First-line therapy with ^{177}Lu-edotreotide can be considered a promising treatment option for patients with metastatic, somatostatin receptor positive, well-differentiated NETs of different origins.

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