Effect of GLP-1 receptor agonists on progression free survival in patients with well differentiated neuroendocrine tumors treated with lanreotide.

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BACKGROUND

The use of GLP-1 receptor agonists (GLP-1RA) is steadily increasing in the US, especially for diabetes and weight loss management, yet their effects on neuroendocrine tumors (NET) remain unclear.

Preclinical studies have suggested that primary NETs with high GLP-1R expression may have increased growth in response to GLP-1RA (1).

This study explores GLP-1RA use amongst patients with NETs in a retrospective dataset.

METHODS

A retrospective cohort study was conducted using Electronic Health Records at a large Cancer Center in New York City to evaluate NET patients with and without GLP-1RA exposure between January 2023 and March 2024.

Approved by Mount Sinai Institutional Review Board (STUDY-24-00580)

Exclusion criteria included high-grade neuroendocrine carcinoma, poorly differentiated neuroendocrine carcinoma, pheochromocytoma, and paragangliomas.

REFERENCES

1. Shilyansky JS at al. GLP-1R agonist promotes proliferation of neuroendocrine neoplasm cells expressing GLP-1 receptors. Surgery. 2025 Mar;179:108943. doi: 10.1016/j.surg.2024.09.052. **PMID: 39665969**.

CONCLUSIONS

Of 588 patients with NET in this study, only a small percentage (8.2%) had been treated with GLP-1RA; most of these exposed patients (78%) did not have tumor progression during follow up.

RESULTS

Table 1. Study Cohort Distribution and Follow-Up Outcomes

Cohort with NET (n)	Patients exposed to GLP-1RA (n, %)	Patients exposed to GLP-1RA treated with lanreotide (n, %)	Mean Progression Free Survival after starting lanreotide
588	48 (8.2%)	20* (41%) *(1 patient with incomplete data was removed from analysis)	Median PFS not reached; follow-up up to 3027 days

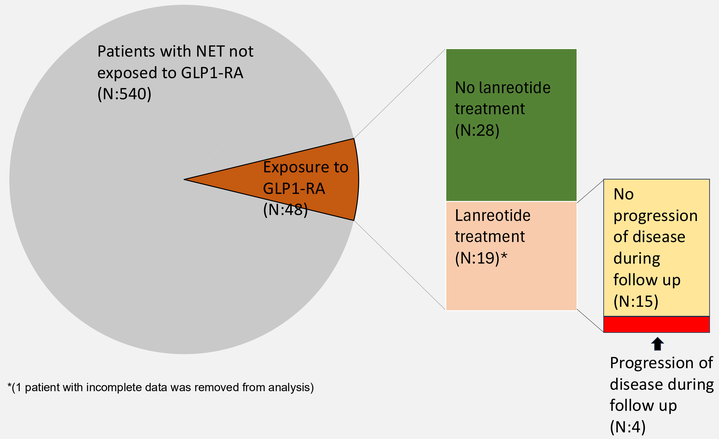
Table 2. Patient and Tumor Characteristics of Individuals on Lanreotide Treated with GLP-1RA

Patients exposed to GLP-1RA treated with lanreotide (n)	Duration of lanreotide treatment (median [IQR]), days	Location NET (n, %)	Tumor grade (n, %)	Functional tumor (n, %)
19	781 [333 – 1241]	Pancreas: 6 (32%) Lung: 6 (32%) GI tract [cecum, ileum, midgut]: 6 (32%) Larynx: 1 (4%)	Grade 1: 10 (56%) Grade 2: 7 (38%) Grade 3: 2 (6%)	Yes: 7 (37%)

RESULTS

- A total of 588 patients were included.
- 58.5% were females
- 62% identified as white race
- The mean age was 62.2 ± 13.6 years
- Of the 48 individuals (8.2%) exposed to GLP-1RA:
  - 63% initiated treatment after their NET diagnosis.
  - 57% of the patients on GLP-1RA had localized disease with grade 1 tumors
  - 72% did not have functional hormonal syndrome.
  - 67% were started on GLP-1RA for diabetes

Figure 1. Study Group Distribution



*(1 patient with incomplete data was removed from analysis)