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Improved Quality of Life in Patients with GEP-NETs Treated with 177Lu-DOTATATE

Bianka Saravana-Bawan1; Marguerite Wieler1; Todd McMullen1; Alexander McEwan1

1University of Alberta

BACKGROUND: The incidence of GEP-NETs has been increasing over recent decades. Lutetium therapy is now established as a treatment with benefit towards PFS in patients with metastatic GEP-NETs with median PFS of up to 36 months. However, the effect of ¹⁷⁷Lu-DOTATATE on QoL is not yet well understood with few studies evaluating the impact on symptom control and patient function. Our study sought to evaluate the impact on QoL for patients with progressive GEP-NETs treated with ¹⁷⁷Lu-DOTATATE.

METHODS: Patient enrollment started March of 2014 and is ongoing. Treatment consisted of induction phase of 5.55 GBq administered at four treatments, 10 weeks apart. For patients without toxicity or progression, a maintenance phase was entered of 2.78 GBq administered every 6 months for up to 4 years or maximum of 12 total treatments. QoL over ¹⁷⁷Lu-DOTATATE treatment was assessed with EORTC QLQ-C30 and QLQ-GI.NET 21 questionnaires at baseline and subsequent to each treatment. Planned interim analysis of QoL was completed in all patients having completed induction therapy. Repeated measures ANOVA was performed. A p value of <0.05 was considered significant and change in EORTC score of ≥ 5 points was considered to be clinically significant.

RESULTS: In total 85 patients met inclusion criteria: tumor of gastroenteric or pancreatic origin and completion of four ¹⁷⁷Lu-DOTATATE treatments. Primary analysis revealed statistically significant change and clinically significant improvement in mean insomnia (36.43 to 25.58), endocrine symptom (20.37
to 14.81) and GI symptom scores (22.28 to 16.67) from baseline to post fourth treatment. Overall global health status was maintained over treatment course with no improvement but also no statistically significant deterioration in QoL.

**CONCLUSION:** $^{177}$Lu-DOTATATE is not only effective in improving PFS for patients with metastatic GEP-NETs but also maintains overall QoL and importantly provides patients with improvement in specific symptoms such as insomnia, endocrine and GI symptoms.