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Small bowel obstruction incidence in Lu177 PRRT patients had no impact on overall survival

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BACKGROUND

Small bowel obstruction (SBO) is an observed complication associated with Lu177 peptide receptor radioligand therapy (PRRT). Recent studies estimate that SBO occurs in 6% of patients receiving PRRT, likely by inducing mesenteric inflammation. However, the impact of SBO after PRRT on overall survival and post-treatment survival is not well understood. Many patients who receive PRRT may undergo abdominal surgery as part of their cancer treatment, which is an independent risk factor for SBO. This further complicates the care of these patients and emphasizes the need to better understand the impact of SBO on survival after PRRT.

METHODS

The Louisiana State University Health Science Center – New Orleans Neuroendocrine Cancer Data repository was queried for incidence of small bowel obstruction following Lu177 peptide receptor radioligand therapy. Dates of surgery, PRRT, small bowel obstruction, and death were extracted, collated and analyzed.

RESULTS

Between 2008 to 2024, a total of 298 NEN patients received Lu177 PRRT. Small bowel obstructions was reported in 18 patients (6%). The average time between PRRT and SBO was 303±62 days and ranged significantly between patients (32-859days). The majority (14of18) of patients had had a small bowel resection prior to PRRT. The average time between surgery and PRRT was 1224±327days (275-4941days). There was no significant difference in overall survival between patients who developed an SBO (1807±276days) and those that did not (1838±250days). In contrast, survival post PRRT was significantly lower in patients with SBO (440±108days) when compared to those without (759±111days p=0.025). In patients that had PRRT after surgery, overall survival (1846±96) was not significantly different when compared to PRRT only (1628±124 p= not significant). In contrast, survival after PRRT was greater in patients receiving PRRT following surgery (491±189) when compared to PRRT only (and 211±69 p<0.05).

CONCLUSIONS

The incidence of SBO after PRRT in NEN patients is similar to that observed with other cancers following radiation therapy. Our study found no difference in overall survival between patients who had SBO versus those who did not. However, SBO negatively impacts survival post PRRT. Recent studies have shown success with corticosteroid therapy in treating post-PRRT SBO, with a small subset of

patients requiring surgery. Future studies on this topic will focus on treatments post SBO to better define optimal treatment algorithms. We also plan to expand the data set to include incidence of SBO in patients without PRRT.

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