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

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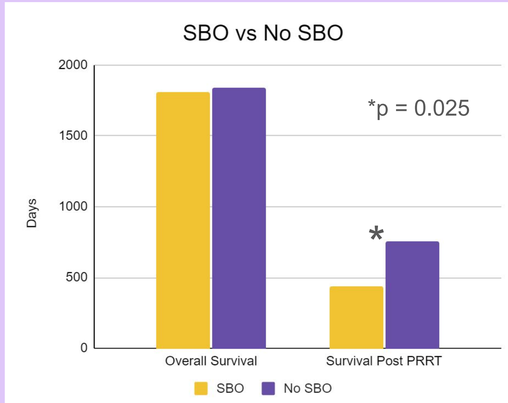
## Introduction

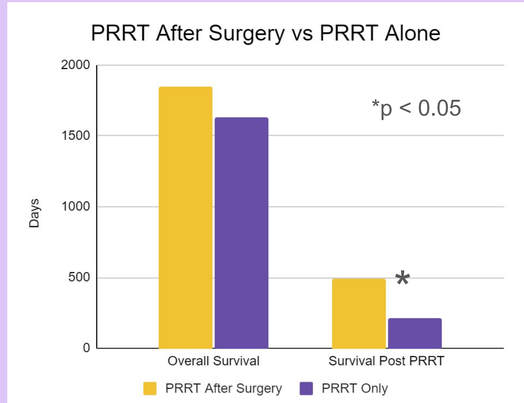
Small bowel obstruction (SBO) is an observed complication associated with Lu177 peptide receptor radioligand therapy (PRRT). Recent studies estimate that SBO occurs in 6% of patients receiving PRRT, likely by inducing mesenteric inflammation. However, the impact of SBO after PRRT on overall survival 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 in our database received Lu177 PRRT. Small bowel obstruction was reported in 18 patients (6%). The average time between PRRT and SBO was 303±62 days and ranged significantly between patients (32-859 days). The majority (14 of 18) of patients had had a small bowel resection prior to PRRT. The average time between surgery and PRRT was 1224±327days (275-4941 days). There was no significant difference in overall survival between patients who developed an SBO (1807±276 days) and those that did not (1838±250 days). In contrast, survival post PRRT was significantly lower in patients with SBO (440±108 days) when compared to those without (759±111 days 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 $p<0.05$).

## Conclusion

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 was found to negatively impact 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 focus on this topic will concentrate on treatments post SBO to better define optimal treatment algorithms. We also plan to expand the data set to include incidence of SBO in NEN patients without PRRT.

## Discussion

Our study has limitations in that it is based out of a single institution's database. However, our database includes patients treated with PRRT in various locations throughout the world, broadening the applicability of our study.