Is it Worthwhile to Use ^{68}Gallium DOTATATE PET/CT in the Workup of Gastroduodenal NETs?

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INTRODUCTION

- Gastrointestinal neuroendocrine tumors (NETs) comprise approximately 55% of all NETs.
- ^{68}Gallium (68Ga) DOTATATE PET/CT (GDP) has reported sensitivities ranging between 80-100% for the detection of NETs.
- The sensitivity of this scan in relation to primary tumor location is not known.

METHODS

- A retrospective chart review of patients with pathologically confirmed primary NETs arising from the stomach and duodenum (gastroduodenal) were compared with NETs arising from the small bowel and pancreas and who underwent a ^{68}Ga dotatate PET/CT.
- x^2 test was performed to compare localization between the two groups, a p value of < 0.05 was considered significant

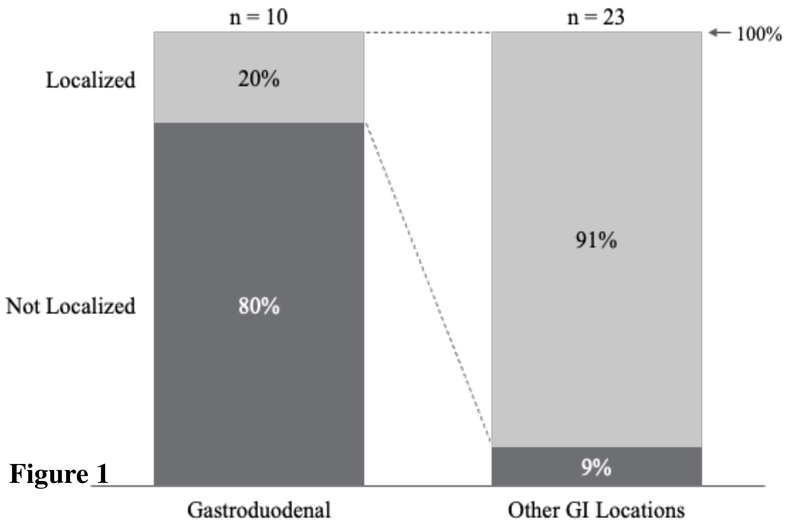


Figure 1

RESULTS

- 10 patients with primary NETs arising from the stomach (40%) and duodenum (60%) were identified and compared to 23 patients with primary NETs arising from the pancreas (56.5%), ileum (34.8%), jejnum (4.3%), and colon (4.3%)
- There was no significant difference between both groups regarding gender and comorbidities. Tumor grades in both groups were Grade 1 and 2 only.
- 20% of patients in the gastroduodenal group had avidity corresponding to their primary tumor compared to 91.3% in the other GI locations group (**$p < 0.001$**).

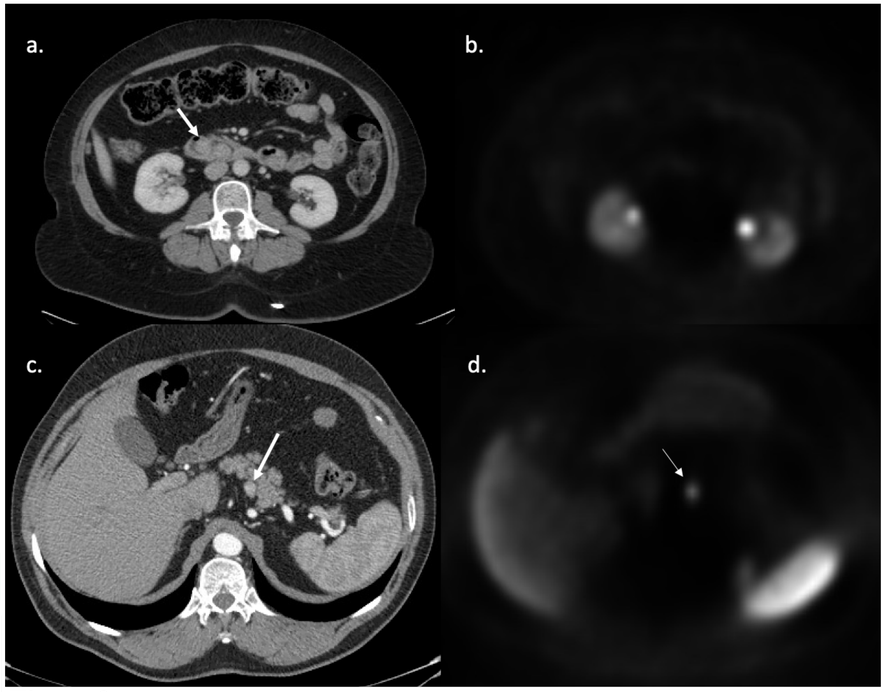


Figure 2

CONCLUSION

- This is the first study examining the sensitivity of ^{68}Gallium DOTATATE PET/CT in the evaluation of NETs arising from specific locations.
- This highlights the importance of using DOTATATE scans judiciously when evaluating NETs of the duodenum and stomach.

Figure 1: Frequency of localization of tumors using ^{68}Ga DOTATATE PET/CT in the gastroduodenal tumor group versus other GI locations

Figure 2 : Representative image of duodenal NET on CT (a) and DOTATATE PET/CT (b). Tumor showed no avidity on PET, final path revealed a pT2N1 lesion. Representative image of pancreatic NET neat body/tail junction visualized on CT (c.) and DOTATATE PET/CT (d.). Lesion with SUV of 21.3 on PET and pT1N0 on final pathology.