

Misidentification of small bowel NET via ⁶⁸Ga-Dotatate PET/CT

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Neuroendocrine tumors (NET) have had a 6.4 fold increased incidence rate between 1973 and 2012 with most found in the lungs, GI tract, rectum and pancreas. The use of ⁶⁸Ga-Dotatate PET/CT to specifically identify NET has promoted early diagnosis with 83%-100% sensitivity depending on the anatomic region. Here, we present a 68 year old male with a suspected small bowel obstruction which by CT was identified as a mass with enlarged mesenteric nodes. ⁶⁸Ga-Dotatate PET/CT showed avidity in both the mass and the nodes, suggestive of NET. Upon surgical resection, the mass was not consistent with NET texture and the intra-operative frozen section revealed pancreatic necrotic fat. Analysis to rule out an inflammatory process for IgG4-related disease was negative. Surgical resection was difficult and unnecessary; therefore, subsequently aborted. A comprehensive literature review revealed 11 rare reported misidentifications of lesions by ⁶⁸Ga-Dotatate. The most frequent misidentification occurred in older patients with a past history of NET and the most frequent ⁶⁸Ga-Dotatate avid tissues were noted in lymph nodes, pancreas and prostate. Our case is the only reported misidentification of a necrotic lesion. Even with the ⁶⁸Ga-Dotatate PET/CT imagining modality's high sensitivity and specificity, the presented case begs the question of how much can practitioners rely solely on ⁶⁸Ga-Dotatate PET/CT without subjectively evaluating patients based on criteria such as age, past medical history, and comorbidities. Exercising caution, in turn, will result in less unneeded treatment and invasive procedures that present with their own risks.