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Development of Pancreatic Cancer During Novel Therapy for Head and Neck Cancer with Pembrolizumab: A Case Report

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INTRODUCTION

- Pembrolizumab (PBM) is a monoclonal antibody targeted against program cell death-1 (PD-1) proteins on cell surfaces, thus inhibiting their interaction and allowing the body's immune system to recognize and destroy malignant cells¹
- PBM was initially FDA approved in 2014 for the treatment of advanced melanoma however as of May 2017 has been approved for the initial treatment of any solid metastatic or non-resectable tumors with specific genetic mutations²
- Common side effects of this medication fatigue, pruritus, anorexia, fever, and diarrhea²
 - However, serious side effects such as autoimmune pneumonitis, hepatitis, colitis, and pancreatitis have been reported as the molecular “brakes” are removed from the immune system²
- We describe a case in which a patient was found to develop a secondary primary malignancy while enrolled in a clinical trial evaluating the effect of PBM for adenoid cystic carcinoma

CASE REPORT

- 76-year-old female with no medical history presented with right ear pain and hearing loss
- Head CT and MRI revealed mixed lytic and sclerotic temporal and maxillary bone lesions suggestive of a neoplastic process
- Surgical biopsy of the maxillary sinus diagnosed adenoid cystic carcinoma. PET scan initially negative for metastatic disease
- She underwent right maxillary sinus resection followed by adjunctive radiotherapy
- Serial imaging 3 years later suggested reoccurrence within her right orbit which was confirmed by biopsy
- Rather undergo repeat surgery, she was enrolled in a clinical trial with PBM
- Following her 4th dose (3rd month) she complained of abdominal pain. CT noted intra- and extra-hepatic biliary dilatation despite normal chemistries.
- EUS demonstrated 3.2 x 2.5cm mass within the pancreatic head (Figure 1) with FNA biopsies consistent with moderately differentiated adenocarcinoma which was not pathologically associated with her head and neck cancer.
- She currently continues to undergo immunotherapy treatment



Figure 1: EUS of the pancreatic head demonstrating a large hypoechoic mass.

DISCUSSION

- PBM is a novel immunotherapy agent which has gained significant interest with recent FDA approval for the treatment of various malignancies
- Presented is a case in which a patient developed a pancreatic malignancy while being treated with PBM for her adenoid cystic carcinoma
- The incidence of pancreatic cancer among patients treated with PBM is unclear
- However given the recent FDA approval of PBM in solid tumors (including pancreatic malignancies), this may ultimately be a unfortunate coincidence
- More data is required to identify the long-term risks of PBM, specifically the incidence of new onset malignancies while on therapy

References:

1. Reck, M et al. Pembrolizumab versus Chemotherapy for PD-L1–Positive Non–Small-Cell Lung Cancer. *N Engl J Med*. 2016; 375: 1823-1833.
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