

# F-18 Fluorodeoxyglucose and Ga-68 Peptide Receptor Imaging of Cervix Mixed Large Cell Carcinoma Presented With Brain Metastasis

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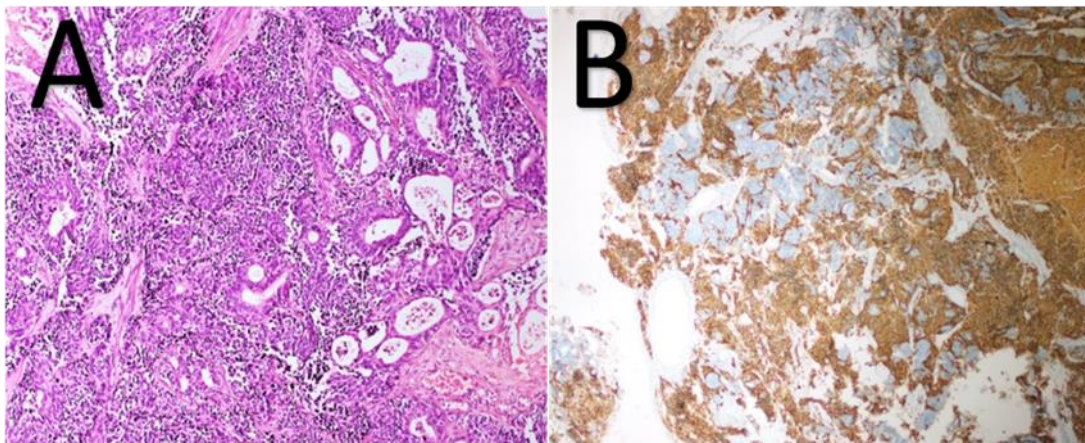
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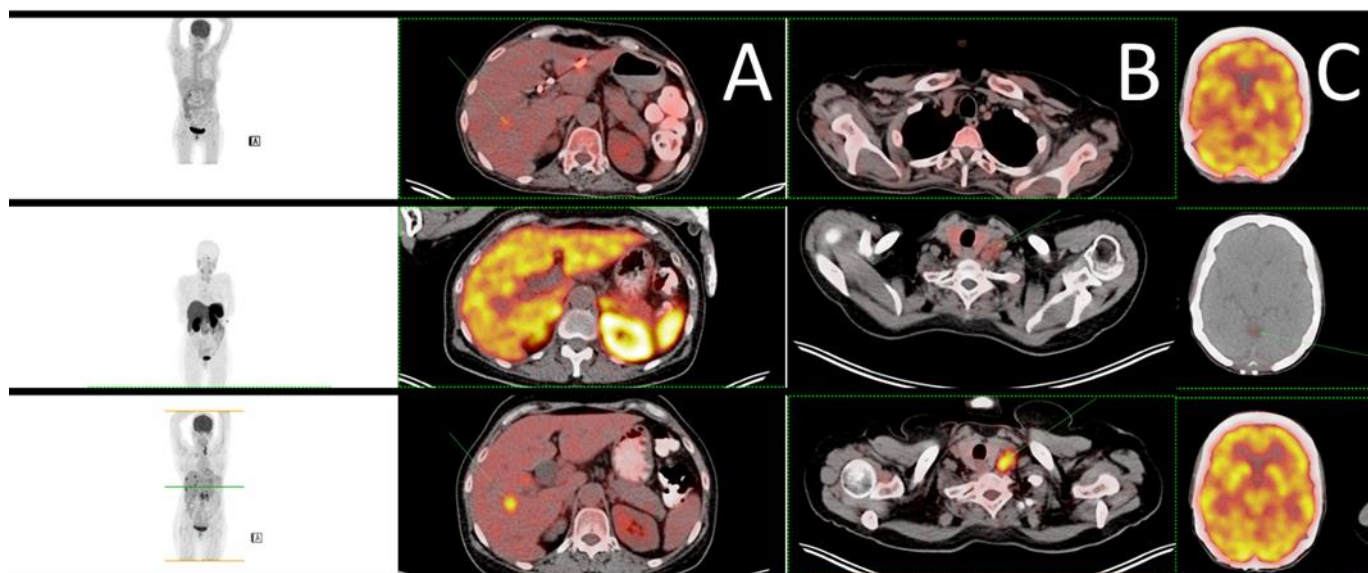
## Abstract

Cervix mixt adenoneuroendocrine carcinoma (MANEC) are rare and aggressive types which present with metastasis early in the disease course. This case report represents the 18F FDG and Ga-68 DOTATATE PET-CT images of the patient presented with brain metastasis.

**Keywords:** adenoneuroendocrine, positron emission tomography computed tomography, fluorodeoxyglucose.



**Figure 1:** 52 years old female patient presented with cervix MANEC who has the chemoradiation treatment history presented with pathological diagnosis of brain metastasis who has vertigo as the complaint. Fig. 1A; The biopsy fragments from the uterine cervix shows extensive malignant infiltration with two intimately mixed patterns: adenocarcinoma (glandular differentiation) and NEC (Neuroendocrine carcinoma morphology with scant cytoplasm, salt-and-pepper chromatin, nuclear molding, and high mitotic rate) (H&E x100) Fig. 1B; While no staining was observed with synaptophysin in the adenocarcinoma component, diffuse strong membranous staining was observed in the NEC component. (Synaptophysin x40)



**Figure 2:** The multiple intensity projection and transaxial PET/CT images demonstrated minimal  $^{68}\text{Ga}$  DOTATATE uptake in metastatic liver lesions (Fig. 2A) and lymph nodes (Fig. 2B) versus high FDG uptake fading in two months follow up with response to treatment. However, the brain metastasis was present in only  $^{68}\text{Ga}$  DOTATATE imaging (Fig. 2C). The patient died several months after the last imaging.  $^{68}\text{Ga}$  DOTATATE imaging is usually implemented in the management and follow up of the neuroendocrine tumors (1, 2) and there is the case report about the utility of this modality in two cases with MANEC of the gastrointestinal tract (3). There is the case report about two patients with MANEC of the cervix in the literature (4). However, this is the first report presenting with  $^{18}\text{F}$  FDG and as well as  $^{68}\text{Ga}$  DOTATE images as far as we know in the literature.

**Peer-review:** Externally peer-reviewed.

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