

Radiology 2018: Role of 18F-FDG PET/CT in staging and response to therapy assessment for primary parotid adamantinomalike Ewings sarcoma: First case report- AlSugair F- King Faisal Specialist Hospital & Research Centre

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Aim: Extra-skeletal sarcoma is very rare tumors. Its adamantinoma-like novel histological variant is even rarer and has only been reported a few times involving the skeleton. Extra-skeletal occurrence of this variant has only been reported once before. We present the first case where 18F-FDG PET/CT was used both in staging and response to treatment assessment. **Method & Material:** This 30-year-old man initially presented to local general hospital with few months history of right parotid swelling. A parotid tumor was diagnosed on CT and the mass was resected. Histopathology was initially reported as adenocarcinoma. Rapid recurrence and growth of the tumor led referral to the tertiary care hospital. Histology review and additional Fluorescence In Situ Hybridization (FISH) test confirmed the diagnosis of adamantinoma-like Ewing's sarcoma. The

patient was offered VAIA chemotherapy (combined chemotherapy protocol) with radiation therapy. Imaging included PET/CT scans pre-chemotherapy and after 4 cycles. It was decided that if good response to chemotherapy was demonstrated, surgical resection could be offered. **Result:** Pre-chemotherapy PET/CT showed a large 8.5x8 cm markedly FDG avid (SUV max 11.5) right parotid tumor. It reduced to 5.3x3 cm after 4 cycles of chemotherapy with significant reduction in FDG avidity (SUV max 3.9). PET/CT did not show any other disease site. Patient also had resection in addition to radiation therapy. **Conclusion:** 18F-FDG PET/CT is a useful technique for staging and response to therapy assessment in primary parotid adamantinomalike Ewing's sarcoma and helps in making clinical management decisions.