



Schwannoma



Fig. 1



Fig. 2

This 30 year old woman presented with progressive dyspnea over the past year. Chest radiograph and CT showed a large left-sided posterior mediastinal mass arising at the level of T4, suggestive of a neurogenic tumor. A PET-CT scan showed increased FDG uptake within the mass, with a maximum SUV of 7.6. Subsequent biopsy showed the mass to be a **schwannoma**, and the mass was resected.

How did the PET-CT help?

Peripheral nerve sheath tumors are primarily neurofibromas and schwannomas. About half of the malignant peripheral nerve sheath tumors occur in patients with type 1 neurofibromatosis, and these patients carry a 10% lifetime risk of malignant degeneration. Distinguishing between benign and malignant tumors in these patients is difficult, since they have multiple tumors and biopsy of the often large tumors may miss malignant areas due to sampling error. FDG PET-CT has been shown to be useful in identifying malignant neurofibromas, which generally are more avid for FDG than benign neurofibromas. One study found good results in using an SUV of 6.1 as the upper limit of benign tumor uptake. However, schwannomas have much more variable uptake, with benign tumors reported with SUVs as high as 8.3. Interestingly, patients with malignant schwannomas seem to have a much better prognosis than those with malignant neurofibromas^{1,2}.

(1) Cancer 2010;116:451-8

(2) Clin Orthop Relat Res. 2004 Sep;(426):69-73