Pitfalls In The Use Of PET Scans To Evaluate Cervical Metastasis From A Cutaneous Malignancy

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CASE PRESENTATION

A 63 year old gentleman was referred to our clinic for a large squamous cell carcinoma of the nasal columella and right nasal vestibule. He underwent an extensive resection followed by reconstruction with bilateral nasolabial flaps, auricular cartilage grafts, and a full thickness skin graft. Two years later patient presented with a subdermal recurrence and what appeared to be bilateral parotid metastasis.

A metastatic work-up revealed marked FDG uptake on PET in bilateral parotid glands. FNA biopsy revealed bilateral Warthin’s tumors. Surgery included near total rhinectomy, bilateral auricular cartilage grafts, and a left paramedican forehead flap.

DISCUSSION

Warthin’s tumor, or papillary cystadenoma lymphomatosum, is the second most common salivary gland neoplasm accounting for 6 – 30% of parotid tumors. It is purely a benign lesion and excision is considered curative. It has a male predominance and often occurs in tobacco users after the age of 50. Clinical symptoms include a progressively enlarging painless mass. Definitive diagnosis is obtained via surgical resection; however, fine needle aspiration is often a useful screening test.

In recent years, positron emission tomography (PET) has increased the accuracy of staging head and neck cancer and monitoring post-therapy recurrence. Its limited usefulness in detecting non-squamous cell cancers is best explained by the poor anatomic localization and variable physiologic uptake in the head and neck. Benign tumors, such as Warthin’s tumors, show marked uptake leading to false positive results. Some clinicians have used nuclear medicine scans as Warthin’s tumors appear as a hot spot on radionucleotide scintigraphy and parotid carcinoma does not accumulate. Tissue diagnosis by either surgical resection or FNA is imperative for accurate diagnosis and treatment planning.

CONCLUSIONS

Although PET serves as an invaluable tool for evaluating and planning for local and distant metastasis in the head and neck, it has limited utility for differentiating benign versus malignant lesions in the salivary glands. It is important that false positives be considered as multiple benign lesions such as Warthin’s tumors which have a high mitochondrial content resulting in a high uptake on PET. One must consider these benign lesions prior to planning treatment.