INTRODUCTION

- Pilomatricoma is a benign tumor originating from cells of the hair follicle matrix.
- Clinical presentation: slow growing, painless, firm, subcutaneous nodule, variably adherent to overlying skin, but mobile over deep tissues. Commonly presents in the first 2 decades of life and predominantly affects the head and neck.
- Clinical diagnosis is straightforward in children and young adults, but can be more difficult in older age groups where primary or metastatic malignancy is higher on differential diagnosis.
- Cytopathological interpretation of FNA samples is notoriously difficult with high potential for misdiagnosis, including interpretation as malignant tumors.
- When preoperative diagnosis of pilomatricoma is made, curative treatment is simple excision of the tumor, with little chance of recurrence.
- Post-operative histopathological diagnosis of pilomatricoma is much more straightforward than FNA cytopathology.

CASE PRESENTATION

HPI: A 58-year-old woman presented with an asymptomatic posterior neck mass first noted four months earlier. She had a history of multiple cutaneous basal cell carcinomas of the upper extremities previously excised. No personal or family history of malignancy in the head and neck, no tobacco or alcohol use, and no radiation exposure.

Physical examination: Revealed a 0.5 cm firm, superficial, subcutaneous nodule in left posterior neck, level V. Remainder of head and neck examination was negative for suspicious cutaneous or aerodigestive lesions and there was no other palpable lymphadenopathy. Indirect fiberoptic nasal endoscopy and laryngoscopy were also negative.

Cytopathology: FNA of the left neck nodule resulted in initial cytopathological diagnosis of metastatic squamous cell carcinoma.

Imaging:
- PET/CT scan (Figures 1 and 2) showed a FDG avid, 0.5 cm left posterior neck mass with a SUV of 2.6. No other FDG avid lesions were seen.
- MRI head and neck – negative for primary tumor.
- CT chest/abdomen/pelvis – negative for distant metastatic disease.

Multidisciplinary tumor board discussion: The patient’s case was presented to the weekly head and neck tumor board. Location of the nodule in level V was considered to be atypical for an isolated nodal metastasis of squamous cell carcinoma in the absence of other lymphadenopathy or a primary cutaneous squamous cell carcinoma of the scalp. This prompted re-examination of the FNA smears.

Cytopathological re-examination: Revealed dispersed squamous cells with dense cytoplasm and prominent nuclei, as well as ghost cells in a background of polymorphonuclear cells, lymphocytes and scattered multinucleated giant cells. These findings were consistent with a pilomatricoma.

Clinical Course:
- Neck dissection was deferred, and the patient underwent panendoscopy with excisional biopsy of the posterior neck mass. Panendoscopy was negative.
- Histopathological analysis of the surgical specimen confirmed the diagnosis of pilomatricoma with negative margins of resection.
- The patient has been followed with serial clinical examinations for two years without signs of recurrence.

DISCUSSION

Clinical characteristics of pilomatricoma
- Subcutaneous nodule - slow growing, firm, painless, mobile over deep tissue, often adherent to epidemis.
- Majority of nodules are 1 to 3 cm in diameter.
- Usually solitary nodule, however a few reports of multiple synchronous nodules in children.

Demographics
- Second most common superficial mass in children -60% occur prior to age of twenty. 85% prior to age of thirty. However, cases reported in all ages.
- Female predominance - 1.6:1 female to male ratio.

Anatomic location
- 80 to 70% of pilomatricomas found in head or neck.
- No reported cases on palms of hands or soles of feet (where hair cells absent).
- Most common sites in head and neck are – neck, frontal, temporal, or periorbital face, and the preauricular area.

Diagnostic evaluation
- In children – lesions in the head and neck can often be diagnosed based on history and physical alone.
- In adults: Helpful for pre-operative diagnosis in older age groups, however, must be aware of propensity for misdiagnosis.
- Imaging – usually shows a sharply demarcated subcutaneous lesion with variable amount of calcification. Of limited utility except in distinguishing a pre-aureicular pilomatricoma from superficial parotid neoplasms.

Differential Diagnosis
- In children: epidermoid cyst, ossifying hemato, branchial remnant, preauricular sinus, lymphadenopathy, giant cell tumor, chordoma, dermoid cyst, degenerating fibroxanthoma, foreign body reaction, and osteoma cutis.
- In adults: also consider malignant tumors including metastatic lymphadenopathy and primary cutaneous neoplasms.

CONCLUSIONS

- This case highlights the difficulty in preoperative diagnosis of pilomatricoma in an abscopal age group, even with FNA sampling and an experienced cytopathologist.
- Awareness by the otolaryngologist of the clinical presentation of pilomatricoma and the propensity for cytopathological misinterpretation is crucial to avoid aggressive treatment for this benign neoplasm.
- Communication with our pathology colleagues may help inform cytopathological analysis to secure the correct preoperative diagnosis when pilomatricoma is clinically suspected.

REFERENCES