Interesting case conference

8/13/12
44 year old man
-presented for right neck nodule; started as a small mass that progressively enlarged to approximately 1.5 cm in diameter
-presented to primary care physician who treated it with antibiotics with no improvement of symptoms
-Eventually referred to an ENT at an outside hospital; evaluation consisted of CT and PET scans, direct laryngoscopy, and FNA
Clinical work-up:

- neck CT demonstrated a 1.4 cm nodule in the subcutaneous tissue on the right side of his neck
- PET scan showed a 1.3 cm soft tissue nodule adjacent to the mandible demonstrating hypermetabolic activity
- direct laryngoscopy demonstrated no abnormalities per the patient's mother
- FNA of the right neck was interpreted as a poorly differentiated squamous cell carcinoma
ASSESSMENT: Patient is a 44M with a history of right neck nodule with **pathology positive for SCC.** It remains unclear whether this is a primary or secondary lesion. There was no definitive source for this lesion identified.

PLAN:

- Schedule for wide local excision with primary closure
- **F/u review of slides by pathology**
- **F/u review of imaging by radiology**
MICROSCOPIC DIAGNOSIS (rendered here):
1. Right neck, fine needle aspiration: Positive for carcinoma. Favor poorly-differentiated squamous cell carcinoma. Please see COMMENT.

COMMENT:
Immunohistochemical stain of CK5/6 on the cell block performed at outside hospital was reviewed here and shows the tumor cell to be positive for CK5/6. Per outside report, the tumor cells are also positive for p63 and tumor cells are negative for chromogranin, TTF1, CK7 and CK20. The immunostaining profile is consistent with the above diagnosis.
Tumor board recommendation is to undergo wide-local excision of right neck subcutaneous tissue.
FINAL MICROSCOPIC DIAGNOSIS:
1 and 3. Skin and soft tissue of right neck, excisions: Pilomatrixoma (1.5 cm). Margins free. Three lymph nodes, negative for neoplasm (0/3).

Case also reviewed by dermatopathology, who agrees with the above diagnosis.
Pilomatrixoma

-Benign adnexal tumor with differentiation towards matrix of hair follicle
-Dermis and subcutis predominantly within head and neck and upper extremities. Mean age 24yrs
-Preoperative diagnosis is difficult, even by experienced clinicians
Pilomatrixoma

-FNA slides returned to the outside hospital quite some time ago; hence, they were not available for retrospective review.

-Subsequent photomicrographs were obtained from *J. Cytol.* 2011 Jan-Mar; 28(1):1-6.
Cytologic features:

- cellular and non-cellular components
- combination of:
  - shadow cells
  - basaloid cells (high N/C ratio, dispersed chromatin; not markedly atypical/malignant appearing)
  - foreign body giant cells
- calcification
- predominance of basaloid cells if aspirated at periphery
- aspirates from older lesions may show only ghost cells

DDx: Trichilemmal cyst, epidermal inclusion cyst, squamous cell carcinoma, basal cell carcinoma, and other basaloid salivary gland neoplasms.
Lessons learned

- Not all neck FNA samples with cohesive basaloid epithelial cells are not necessarily squamous cell carcinomas.

- Be aware of pilomatrixoma as an entity. The diagnosis can be challenging clinically and on cytopathology.