Oral Histopathology

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Series 35 (13 cases)

Case	Features
Atypical verrucous hyperplasia with mild to moderate dysplasia	• An earlier series introduced the diagnosis of *atypical verrucous hyperplasia* in the same context as *verrucous carcinoma* [in some cases the difference can be very difficult to describe]; this should not be confused with the clinical term *proliferative verrucous leukoplakia* ("hyperplasia" and "hyperkeratosis" are histologic terms, "leukoplakia" is a clinical term) • Many of these lesions are histologic manifestations or sequellae to smokeless tobacco keratosis and/or proliferative verrucous leukoplakia • Dysplasia is noted in this case as focal areas of basal cell disarray and marked mitotic activity (more than 1-2 mitoses per 5-10 high power fields is considered excessive in most tissue types), with prominent nucleoli
Squamous cell carcinoma	• This is part of the spectrum of *minimally invasive carcinoma* (less than 1-2 mm invasion into the connective tissue) but is clearly a well-differentiated keratinizing carcinoma with marked nuclear pleomorphism, individual cell keratinzation, and invasion by small nests and single cells into the connective tissue
TUGSE	• The ulcer is very focal but the characteristic features (ulcer, fibrin, granulation tissue and infiltration into skeletal muscle with eosinophils) should be well recognized
Squamous papilloma	• Papillary 'flower-like' nodule with surface keratinization (results in a clinically more white or 'cauliflower' lesion)
Melanocytic nevus (skin)	• Well-formed nests or *theques* which mature from larger to smaller and track along hair follicles and sebaceous units ('congenital features') • Congenital features and congenital nevi are in most instances not worrisome; however variation in sizes of nests/theques, deeply infiltrative lesions or lesions with poor 'maturation' or which are asymmetric clinically or on the slide should warrant expert evaluation (Dermatopathologist)
Odontogenic keratocyst	• Basal palisading, 5-8 cell layers, corrugated parakeratin
Cavernous hemangioma with thrombi	• Enlarged/dilated endothelial lined channels containing blood • Calcifications may be common (so called *phleboliths*)
Varix with organizing thrombus	• A single endothelial lined channel with a very organized thrombus
Cavernous hemangioma with organizing thrombi	• Similar to the varix, but multiple endothelial lined channels, all with hemorrhage, stasis and thrombus formation
Mixed tumor	• Well defined salivary tumor predominantly plasmacytoid myoepithelial cells and chondromyxoid stroma; ducts are identifiable at the periphery
Lymphoma	• Lytic lesion of the mandible composed of sheets of abnormal large lymphocytes and brisk mitotic activity (in cases such as this, immunohistochemistry and *flow cytometry* are usually performed to characterize the lymphoma subtype; genetic testing for specific translocations/deletions/alterations has also become standard of care – tissue must often be banked in several forms such as fresh, frozen, in special solutions and fixatives)

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Pemphigoid?	• There appears to be a subepithelial separation but there is also lichenoid type inflammation (band-like infiltrate) and some abnormality to the epithelial cells and nuclei; this may represent inflammatory atypia • The case highlights the challenge – erosive or 'bullous' lichen planus, pemphigoid and other lesions should be considered and in cases such as this immunofluorescence strongly considered (separate tissue specimen submitted in *Michel solution* should be performed) • Michel solution is more a preservative than a fixative; tissue fixation in formalin destroyed the proteins and antibodies that must be evaluated by the fluorescent labeled antibodies used in immunofluorescence but Michel solution allows preservation of tissue
Odontogenic cyst with histiocytes/xanthoma cells	• A distinct cyst lining is identified; depending on context this could be a *dentigerous (follicular) cyst* (impacted tooth), an inflammatory cyst or some other cyst • The presence of numerous large foamy cells which are likely *histiocytes* (macrophage and others) or *xanthoma* cells must be evaluated – these may simply be reactive cells to some foreign substance in the cyst, a true 'tumor' such as a *xanthoma*, a histiocytic process/tumor such as *Rosai-Dorfman Disease* (beyond the scope of this exercise) or a manifestation of some type of lipid disease such as *Tay-Sachs* or a *mucopolysaccharidosis* (also beyond this scope and often part of a severe skeletal, developmental and systemic presentation) • Immunohistochemistry, genetic testing and thorough medical evaluation should be driven by otherwise unexplainable findings such as this one • This case is unusual but was shown to a resident group who performed the surgery [the case turned out to be an isolated lesion to the fortunate outcome for the patient]