Oral Histopathology

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Series 24 (18 cases)

Case	Features
Benign mixed tumor	• Well-defined partially encapsulated tumor (palate) consisting of myoepithelial cells, some hyalinized and myxoid stroma, duct formation and some areas of keratinization and calcification (no two tumors ever look truly alike!) • Adjacent minor salivary glands noted
Fibroma, giant cell type	• A fibroma, often seen on tongue and gingiva, often with a papillary appearance (DDX includes papilloma) with dense collagen and large stellate or triangular shaped fibroblasts, some with multiple nuclei (*giant cell fibroma* is not to be confused with *giant cell granuloma*)
Ameloblastoma	• This case has both cystic and solid/plexiform morphology, palisading of basal nuclei, reverse nuclear polarity and stellate reticulum formation (treatment was as for a solid, not cystic, ameloblastoma)
Melanoma	• This is a poorly differentiated malignancy with marked cellular and nuclear pleomorphism, numerous abnormal mitoses (some are star-shaped); the presence of brown melanin pigment and large purple to dark 'cherry red' nucleoli aided in diagnosis, as did immunohistochemistry (S-100, Mart-1 and HMB-45, stains for melanocytes) and a clinical history of previous melanoma
Peripheral odontogenic fibroma, WHO type	• Gingival mass consisting of fibrous connective tissue and numerous epithelial odontogenic rests
Peripheral ossifying fibroma, ulcerated	• Ulcerated gingival nodule with dystrophic calcifications and granulation tissue underlying the ulcer
Squamous papilloma	• Papillary gingival nodule; the apparent separation of the individual papillary growths is an artifact of processing and cutting across the papillary 'fronds'
Lobular capillary hemangioma, ulcerated	• Surface is ulcerated and covered in an eosinophilic fibrin; the underlying tissue mass is composed of lobules of vascular tissue (small capillaries) • Academically, one can debate the diagnosis of *pyogenic granuloma* as neither 'pyogenic' (i.e. induced by fever) or 'granuloma' (i.e. granulomatous inferring a foreign body reaction or true granulomas as seen in sarcoidosis or tuberculosis) or if a better diagnostic terminology is, as in this case *lobular capillary hemangioma* or *granulation tissue type hemangioma* [terminology can be confusing, therefore the different diagnostic terms are introduced here in context to aid the participant/reader]
Reaction to polarizable material (lip augmentation)	• Polarizable foreign material and associated multinucleated foreign body type giant cells • Reader is referred to the earlier series on foreign body materials as an exercise to determine the exact nature of the material • A library of foreign materials is also available at the AAOMP web site, http://www.aaomp.org/ - scroll to the ATLAS for the pull down menu foreign materials library
Pulse granulomas	• The terms *pulse granuloma, connective tissue hyaline bodies* and *giant cell hyaline angiopathy* are sometimes used

	interchangeably (but probably should not be) • In this case, a polarizable fragment (vegetable material or 'pulse') is identified so the term 'pulse granuloma" is most appropriate • Involvement of blood vessels may favor the term 'hyaline angiopathy' and a simple hyaline mass with giant cells (as in some areas of this case) may favor the term 'connective tissue hyaline body'
Leukoedema	• Rarely biopsied, since diascopy or stretching of the bluish-white 'leukoplakia' of buccal mucosa (usually in darker skinned individuals) leads to blanching or disappearance of the lesion and is satisfactory for diagnosis • Likely represents a defect in production of certain keratins • Evident histologically, as in this case, as 'ballooning' and acanthosis (thickening) of the epithelial cells in the spinous layer • Frictional keratosis may mimic this histologically (look for surface maceration and bacterial debris) • Oral hairy leukoplakia is almost identical histologically; a history of immune suppression (solid organ transplant, HIV/AIDS) will aid in diagnosis and immunohistochemistry or genetic hybridization for Epstein Barr virus or its component genes/proteins may also be employed
Squamous cell carcinoma, well to moderately differentiated	• Most of this carcinoma is keratinizing (well differentiated) but other areas take on a more spindle cell characteristic and less keratin production (moderately differentiated) • Other features are still present (cellular and nuclear pleomorphism, prominent nucleoli, keratin pearl formation, carcinoma arising/dropping from surface epithelium which is highly dysplastic and dyskeratotic
Mucocele, extravasation type	• Mucus surrounded by compressed granulation tissue and partially by a ruptured duct epithelium • Minor salivary gland lobules without significant pathologic changes
Mucoepidermoid carcinoma	• Classic features: numerous mucocytes (mucus cells), epidermoid and intermediate cells; predominantly solid (rather than cystic) but still histologically 'bland'
Benign fibro-osseous lesion, c/w focal COD	• Abnormally shaped bone and osteocementum, round spherical cementicles and a spindle cell to vascular background [the radiograph showed a mixed radiodensity adjacent to but not attached to a molar root]
Ameloblastoma	• Basal palisading, reverse polarity, stellate reticulum • Some areas show *granular cell* and *acanthomatous (squamous)* changes in the stellate reticulum • Other areas show connective tissue fibrosis and 'compression' of the tumor nests and strands in the so-called *desmoplastic* variant [this is a unique variant which appears radiologically as a mixed radiodensity and may mimic a BFOL]
Ameloblastoma	• Predominantly cystic architecture but otherwise shows the characteristic features (basal palisading, reverse polarity, stellate reticulum which here lines the cyst lumen [in these lesions these are known as the *Vickers-Gorlin criteria* and delineate these cystic ameloblastomas from other cysts]
Odontogenic keratocyst	• Basal palisading (without reverse polarity, compare to the previous two cases), 4-8 cell layers, corrugated parakeratin