# Oral Histopathology

David E. Klingman, DMD
Diplomate, American Board of Oral and Maxillofacial Pathology
Diplomate, American Board of General Dentistry

**Series 25 (19 cases)**

| Case | Features |
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| Traumatic bone cyst | • Fragments of bone, connective tissue, a large nerve (probably the inferior alveolar nerve) + hemorrhage; a cyst lining is not identified<br>• The clinical/surgical history (i.e. opening into an empty cavity) is important |
| Osteoporotic marrow defect | • Hematopoietic bone marrow (large megakaryocytes are easily identified)<br>• The clinical history was that of a radiolucency |
| BFOL, c/w focal osseous dysplasia | • Irregularly shaped bony trabeculae in a largely fibrous/spindle cell background stroma<br>• Some osteoblastic rimming of the trabeculae is noted<br>• There is some 'retraction' of the stroma from the bony trabeculae, which is sometimes seen in *fibrous dysplasia* but osteoblastic rimming favors *osseous dysplasia* over fibrous dysplasia; the radiographic appearance is important ('ground or etched glass' favors fibrous dysplasia, a more mixed radiodensity favors osseous dysplasia) |
| Follicular lymphoma | • Squamous epithelium and underlying proliferation of lymphoid tissue; the follicles in this case collide with one another and lack a well-polarized morphology and lack mantle zones; at high magnification there is a mix of cells with both large round irregularly-shaped nuclei and others with more cleaved or kidney-shaped nuclei and the tumor is seen surrounding nerve in one of the high power images |
| Granulomatous inflammation | • Characterized by marked acute and chronic inflammation and formation of granulomas (appear as 'balls' of squamous to epithelioid histiocytes and macrophages with multinucleated *Touton-type giant cells* with a ring of nuclei around the periphery)<br>• Special stains for fungal organisms (PAS, GMS), bacterial (acid fast bacilli such as Mycobacterium), polarization (to evaluate for foreign material), and evaluation for gastrointestinal disease, sarcoidosis and other granulomatous diseases should be considered in these types of cases |
| s/o ameloblastoma | • This was submitted as a *dentigerous (follicular) cyst* but showed some of the 'Vickers-Gorlin' criteria for ameloblastoma (basal palisading, reverse polarization of basal nuclei and a stellate reticulum like epithelium lining the cyst lumen) |
| Odontogenic keratocyst | • The characteristics in this case are more subtle; there is some palisading of basal nuclei (most evident at low magnification) and 5-8 cell layers, but the inflammation present in the wall along with separation of the cyst lining from the connective tissue makes orientation more difficult [important: inflammation will mask the features of OKCs] |
| Glandular odontogenic cyst | • Numerous mucocytes (mucus cells) and suggestions of a respiratory-type epithelium (apical 'snouting' and suggestion of cilia) favor the diagnosis<br>• The diagnosis should be approached with caution in the maxilla since the proximity to the sinuses (posterior) and the nasopalatine duct (anterior) may represent respiratory epithelium and not glandular odontogenic cyst |
| Glandular odontogenic cyst | • Cilia and apical snouting are marked in this cyst lining; the mucus cells are less evident (less blue staining and more foamy) |

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| Dentigerous cyst with features of CEOT | • This dentigerous cyst, associated with an impaction, demonstrated calcifications and 'ghost-like' to 'amyloid-like' cells in the cyst lining<br>• The presence of ghost cells and calcifications resemble those features of *calcifying epithelial odontogenic tumor (CEOT)* a.k.a. *Pindborg tumor* but the overall histology and presentation were that of dentigerous cyst; cases such as these may warrant a diagnosis comment and suggestion for submission of additional tissue/evaluation of the entire lesion if only a biopsy is submitted, or for careful long term follow-up |
| Peripheral ossifying fibroma, ulcerated | • Largely this is histologically consistent with an ulcerated pyogenic granuloma/granulation tissue type hemangioma (ulceration and granulation tissue) but the presence of bone favors the diagnosis of *peripheral ossifying fibroma*<br>• A sound method when approaching gingival nodules is to examine the specimen for multinucleated giant cells (favor *peripheral giant cell granuloma*), bone or dystrophic calcifications (favor *peripheral ossifying fibroma*), epithelial odontogenic rests (favor *peripheral odontogenic fibroma*), enamel/dentin (favor *peripheral odontoma*), or features of odontogenic cysts/tumors (*peripheral odontogenic keratocyst, peripheral ameloblastoma* and others) |
| Fibrolipoma | • A 'combination' lesion consisting of both fibrous and adipose tissue<br>• Unlike *(traumatic) fibroma* this is likely a true tumor, rather than a reactive lesion |
| Plexiform schwannoma | • This is a neural lesion characterized by spindle cells with comma-shaped to wavy nuclei; the presence of 'palisaded' nuclei with an intervening pale pink to myxoid neural stroma (i.e. "Antoni A" tissue or formation of *verocay bodies*) favors the diagnosis of *schwannoma*<br>• The 'plexiform' nature described the multiple 'nodules' of tumor; in the context of *plexiform neuroma* a diagnosis of oral mucosal neuromas may be considered in contect of multiple endocrine neoplasia; in the context of *plexiform neurofibromas* the diagnosis of neurofibromatosis should *strongly* be considered (it is one of the diagnostic criteria for this syndrome); the association of plexiform schwannomas with neurofibromatosis is less clear but may also be considered |
| Congenital epulis | • Histologically this is a granular cell tumor; however in young children with a large growth, usually of the tongue or alveolar mucosa (as in this case from the alveolus), the lesion is a *congenital epulis* and the cells do not stain for S-100 as in granular cell tumor<br>• Epithelial odontogenic rests were also identified; these are likely incidental findings in the dentoalveolar location |
| TUGSE | • *Traumatic ulcerative granuloma with stromal eosinophilia (TUGSE)* is an ulcerative lesion, usually on the tongue, which mimics a carcinoma; the presence of ulcer, granulation tissue and eosinophils infiltrating skeletal muscle are the features that aid in rendering this diagnosis |
| Nasopalatine duct cyst, inflamed | • The location (anterior palate) and clinical/radiographic presentation (#8-9, vital teeth, large radiolucency) and the presence of respiratory type epithelium favor this diagnosis; inflammation may mask these features |
| Lateral periodontal cyst | • A simple to squamous epithelial cyst lining with focal thickening, location (as in this case) in mandibular anterior to bicuspid region, with a radiolucency on the lateral aspect of a vital tooth/root |
| Salivary duct cyst with oncocytic metaplasia | • A cyst lining with a single to double layer of oncocytic (pink) cells<br>• Minor salivary gland lobules with sclerosing sialoadenitis |
| Squamous cell carcinoma, intraosseous | • A well-differentiated keratining squamous cell carcinoma (with nuclear pleomorphism, prominent nucleoli, keratin pearl formation) and focal invasion of nerve (high power image) located within the mandible (may represent invasion of carcinoma from the oral soft tissues which is more likely, or a carcinoma arising from an odontogenic cyst/tumor or a primary intraosseous carcinoma which are both uncommon) |