|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Developmental Non-Odontogenic Cysts** | | | | | | | | | | |
|  | **Palatal Cyst of the Newborn** - Epstein’s Pearls - Bohn’s Nodules | **Nasolabial Cyst**  -Nasoalveolar cyst - Klestadt Cyst | **Globulomaxillary Cyst** | **Nasopalatine Duct Cyst -** Incisive Canal Cyst | **Median Palatal Cyst** | **Median Mandibular Cyst** | **Oral Epidermoid Cyst** | **Dermoid / Teratoid Cysts** | **Thyroglossal Duct Cyst** | **Cervical Lymphoepithelial Cyst**  **-** Branchial Cleft Cyst |  |
| **DEFINITION** | Small Developmental cyst on palate of the newborn infants | Rare developmental cyst that occur in the upper lip lateral to midline  Adults in 4th or 5th decades are commonly affected with female predominance (3:1) | It is previously considered as "fissural " cyst result from entrapment of epithelia during fusion of globular portion of medial nasal process with maxillary process.  This concept has been questioned since epithelial entrapment should not occur during embryonic development of this area because theses two processes are primarily  united. | Most common non-odontogenic cyst of oral cavity  which involve 10% of Jaw cysts. |  | Controversial lesion of questionable existence | Uncommon developmental cystic malformation | Generally classified as a bening cystic form of teratoma. The cyst is lined by epidermis-like epithelium with no dermal appendiges in the cyst wall |  |  | Uncommon lesion of the mouth that develop within oral lymphoid tissue. It is microscopically similar to cervical lympho epithelial cyst but much smaller in size |
| **CLINICAL FEATURES** | Cyst is small 1-3mm white or yellowing white papules, frequently, a cluster of 206 cysts are observed | Swelling of the upper lip lateral to the midline, resulting in elevation of the ala of the nose. Sometimes this elevation result in nasal obstruction. | It develop between maxillary  lateral incisor &cuspid teeth | Swelling of the anterior palate, drainage & pain  Three times higher incidence in males.  Most of them are asymptomatic | Asymptomatic fluctuant swelling of the midline of the hard palate posterior to the palatine papilla, 2X2cm in size. |  | Presents as nodular fluctuant submucosal lesion that may or may not be associated with inflammation | Occur in the midline of mouth region & represents the minimal manifestation of Tratoma /Dermoid cyst / Epidermoid Cyst spectrum. May develop above the geniohyoid muscle (sublingual swelling). or below genohyoid muscle (submental swelling) | It develops in the midline & may occur anywhere from the foramen cecum area of the tongue to the substernal notch.  In 60-80% of case, cysts develop below hyoid bone.  Commonly diagnosed in the first two decades of life.  It present as painless, fluctuant movable swelling unless secondary infected, the size is 3-10 cm.  It move vertically during swallowing or protrusion of the tongue.  Fistulous tracts to the skin or ucosa develop in many cases. | Occurs in the upper lateral neck along the anterior border of sternocleidomastoid muscle. Mostly affect young adults (20-40 y.o) It appear as soft, fluctuant mass of 1-10 cm in diameter Some appear as sinuses or fistula with mucoid discharge onto skin | Small submicosal mass that is usually 1cm in diameter Cyst may feel firm or soft in palpation & the overlying mucosa is smooth & non-ulcerated.  The lesion is white or yellow & often contains creamy or chessy keratinaceous materials in the lumen. It’s a symptomatic & affect the floor of the mouth of young age individuals |
| **LOCATION** | Palate of new born | Upper lip lateral to midline |  |  |  |  |  |  |  |  |  |
| **PERIPHERY & SHAPE** |  | No radiographic appearance because it is in the soft tissue | Well-circumscribed  unilocular radiolucency as an inverted pear  between & apical to the teeth. | Well-circumscribed radiolucency (round or oval) with sclerotic borders in or near the midline of the anterior maxilla between & apical to the Central incisors.  It may be difficult to distinguish a small nasopalatine duct cyst from a large incisive foramen.  It is generally accepted that a thickness of 6mm.is the upper limit of normal size for incisive foramen.  Therefore, a radiolucency that is 6mm. or smaller in size in this area is usually considered a normal foramen, unless other clinical signs &symptom are present.  In rare cases, nasopalatine duct cyst may develop in soft tissue of incisive  papilla without bony involvement [**Cyst of incisive papilla**] which demonstrates bluish discoloration as  a result of fluid contents in the cyst  lumen. | Well- circumscribed radiolucency in the midline of the hard palate.  It must be stated that a true median palatal cyst should present with clinical enlargement of the palate.  A midline radiolucency without clinical evidence of expansion is probably a nasopalatine duct cyst. | Midline radiolucency between &  apical to the mandibular central incisors with cortical expansion. |  |  |  |  | It is microscopically similar to cervical lympho epithelial cyst but much smaller in size |
| **INTERNAL STRUCTURES** |  |  |  |  |  |  |  |
| **MANAGEMENT** | No treatment is required. Self healing within several weeks. Epithelia egenerates, the cyst rupture onto mucosal surface & eliminate their keratin contents | - IO Surgical Excision - Endoscopic Marsuplization | Enucleation | Surgical enucleation with biopsy | Surgical removal |  |  | Surgical Removal | Siistrunk Procedure | Surgical Removal | Surgical Excision |
| **RECURRENCE** |  | Rare recurrence |  |  | No recurrence |  |  |  | 10% Recurrence Rate 1-2% of cases carcinoma |  |  |
| **PATHOGENESIS** | **It has been theorized that these "inclusion"**  **cysts may arise in one of two ways**:  First:  As the palatal shelves meet & fuse in  the midline to form secondary  palate, small epithelia may become  entrapped below the surface along  anterior part of median palatal  raphe & form cyst {Epstien's pearls}.  Second: These cysts arise from epithelial  remnants derived from the  development of the minor salivary  gland of palate {Bohn's nodules}  which is present scattered over hard  palate & near soft palate. | **Pathogenesis is uncertain, although there are 2 theories:**  First:Considered as "fissural" cyst arise from epithelial remnant entrapped  along the line of fusion of maxillary, medial & lateral nasal processes.  Second It develops from misplaced epithelia of the nasolacrimal duct because of their similar location & histology | Current theory suggest that all cysts that develop  in "globulomaxillary" area are actually of  odontogenic origin.( PA, OKC or LPC) | § It arise from remnant of nasopalatine duct ( an embryonic structure connecting the oral & nasal cavities in the area of incisive canal).  § The incisive canal begins on the floor of the nasal cavity on either side of the nasal septum, coursing  downward & forward to exit the palatal bone via common foramen in the area of incisive papilla.  § Trauma or infection of the duct & mucous retention of adjacent minor salivary gland have been mentioned as possible etiologic factors.  § The lesion most likely represents a spontaneous cystic degeneration of remnant of nasopalatine duct. | Rare fissural cyst that theoretically develop from epithelia entrapped along the embryonic line of fusion of  the lateral palatine shelves of maxilla.  This cyst may be difficult to distinguish from nasopalatine  duct cyst, since most median palatal cysts may represent posteriorly positioned naso-palatine duct cyst | Theoretically, it represents a "fissural" cyst in the anterior midline of the mandible that develop from epithelia entrapped during fusion of the two halves of the mandible during embryo life.  However, the mandible actually develops as a single bi-lobed proliferation of mesenchyme with a  central isthmus in the midline which is eliminated as mandible develop.  Therefore, because no fusion of  epithelium-lined processes occurs,  entrapment of epithelia should not be possible.  For this reason it appears likely that  most, if not all, of these midline cysts are of odontogenic origin. |  |  | Thyroid gland begins its development at the end of third week of embryo life as a proliferation of Endodermal cells from the ventral floor of the pharynx  between the tuberculum impar &  copula of the developing tongue ( a  point that later becomes foramen  cecum).  This thyroid anlage descends into the neck to its final location.  Along this path of descent, an epithelial tract or duct is formed, maintaining an attachment to the base of the tongue.  These thyroglossal duct epithelia undergoes atrophy & is obliterated. However, remnants of this epith. May persist & give rise to cysts along this tract known as thyroglossal duct cyst. | Developmental cyst of the lateral neck. It may develop from remnant of the 2nd branchial clefts during 4th week of  gestation.  Or may arise from cystic changes in parotid gland epith. That become entrapped in the upper cervical lymph node during embryo life. |  |
| **NOTES** | **Histologically:** Kertain-filled cyst that are lined by stratified squamous epithelium | **Histologically:**  - Cyst lining is composed of  pseudostratified columnar ciliated  epith. With goblet cells. - Areas of cuboidal epith. & squamous  metaplasia.  - Fibrous CT wall. | **Histological:**  Cyst lining is of stratified squamous epith. like periapical cyst,  sometimes cyst lined by pseudostratified ciliated colouminar epith. | **Histological:**  § Cyst lining is of stratified squamous epith., some cysts in this location may be classified as **odontogenic keratocyst or developmental periodontal cyst**.  § The type of epithelium may be related to the vertical position of the cyst within the incisive canal.  § Cyst developing within the superior aspect of the canal near nasal cavity often demonstrates  respiratory epith. § Those cysts in the inferior portion  near the oral cavity exhibits squamous epith.  § The content of the cyst wall can be  helpful diagnostic aid, because nasopalatine duct cyst arises with incisive canal, moderate size nerves, small muscular arteries &veins are usually found in the wall of the cyst. Small mucous gland have been reported. | **Histological:** Cyst lined by stratified squamous epithelia Areas of pseudo-stratified columnar epithelia have been reported in cases.  **To differentiate the median palatal cyst from other cystic lesion of the**  **maxilla:**  1. Symmetrical along the midline.  2. Ovoid or circular.  3. Located posterior to palatine papilla.  4. Not associated with non-vital teeth.  5. No microscopic evidence of large NV bundles, hyaline cartilage or minor salivary glands in the wall of the cyst. | **Histological:** Cyst lined by stratified squamous epithelia.  *Some cysts in this location may be classified as odontogenic keratocyst or developmental lateral periodontal cyst or GOC*  **THE TERM MMC SHOULD NO LONGER BE USED** | **Histological:** Cyst lined by stratified squamous epithelia.  Resemble Epidermis  A well developed granular cell layer is seen Lumen is filled with degenerating orthokeratin | **Teratoid cyst:** Cystic form that contains: 1. Skin appendages. 2. CT elements (Muscle, BV & bones) 3. Endodermal structures (GIT epith cyst lining) | **Histological:** Cyst lined by colouminar or stratified squamous epith. Thyroid tissue may occur in cyst wall. | **Histological:**  Cyst lining: stratified squamous epith. which may be keratinized or non-keratinized.  Cyst wall: lymphoid tissue with germinal center formation. | **Histological:** Cyst cavity lined by parakeratinized stratified squamous epith. Without rete ridges, cyst lumen is filled with desequamated squamous epithelia.  **THE MOST STRIKING FEATURE IS THE PRESENCE OF LYMPHOID TISSUE IN THE CYST WALL WITH GERMINAL CENTER FORMATION** |