Non-odontogenic cysts

1.Nasolabial cyst

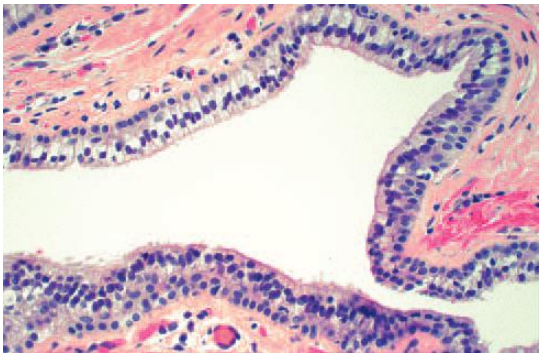
The nasolabial cyst is a rare developmental cyst that occurs in the upper lip lateral to the midline. Two major theories of pathogenesis have been suggested. One theory considers the nasolabial cyst to be a fissural cyst arising from epithelial remnants entrapped along the line of fusion of the maxillary, medial nasal, and lateral nasal processes. A second theory suggests that these cysts develop from misplaced epithelium of the nasolacrimal duct because of their similar location and histologic appearance.

Clinical and radiographical features

- appears as a swelling of the upper lip lateral to the midline, resulting in elevation of the ala of the nose and obliteration of the maxillary mucolabial fold.
- no radiographic changes are seen because the nasolabial cyst arises in soft tissues.

Histopathological features

- The nasolabial cyst is characteristically lined by pseudostratified columnar epithelium, often demonstrating goblet cells and cilia.
- The cyst wall is composed of fibrous connective tissue with adjacent skeletal muscle.

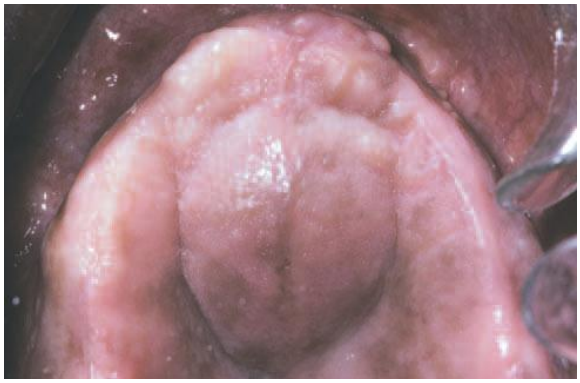


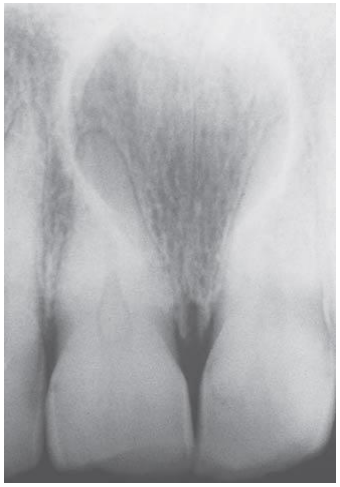
Nasolabial cyst: Pseudostratified columnar epithelial lining.

Treatment: Complete surgical excision, recurrence is rare.

2.Nasopalatine duct cyst (Incisive canal cyst)

- The nasopalatine duct cyst is the most common nonodontogenic cyst of the oral cavity, occurring in about 1% of the population.
- The cyst is believed to arise from remnants of the nasopalatine duct, an embryologic structure connecting the oral and nasal cavities in the area of the incisive canal.
- The most common presenting symptoms include swelling of the anterior palate, drainage, and pain although many lesions are asymptomatic.
- cyst may produce a "through-and-through" fluctuant expansion involving the anterior palate and labial alveolar mucosa.
- Radiographs usually demonstrate a well-circumscribed radiolucency in or near the midline of the anterior maxilla, between and apical to the central incisor



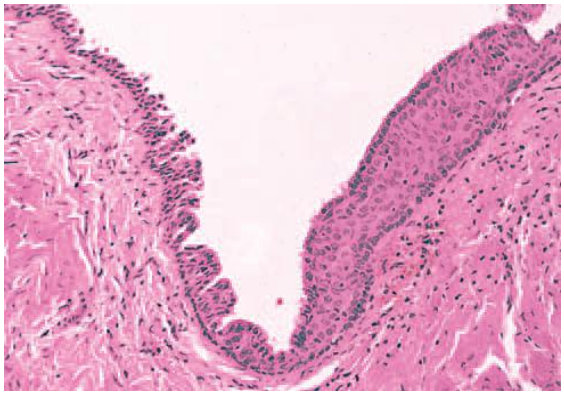


- In rare instances, a nasopalatine duct cyst may develop in the soft tissues of the incisive papilla area without any bony involvement. Such lesions often are called cysts of the incisive papilla. These cysts frequently demonstrate bluish discoloration as a result of the fluid contents in the cyst lumen.

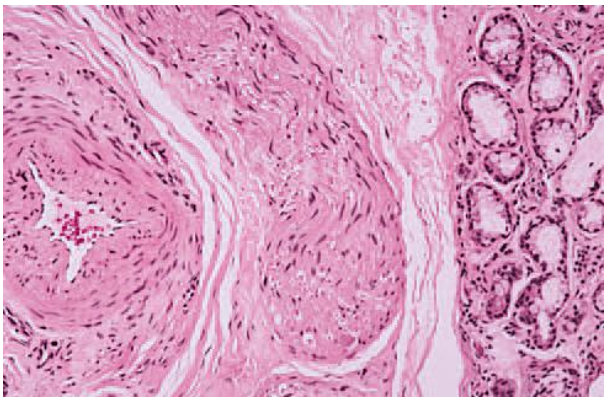
Histopathological features: The epithelial lining of nasopalatine duct cysts is highly variable. It may be composed of the following:

- Stratified squamous epithelium
- Pseudostratified columnar epithelium
- Simple columnar epithelium
- Simple cuboidal epithelium

Small mucous glands have been reported in as many as one third of cases. Occasionally, the clinician may see small islands of hyaline cartilage.



Cystic lining showing transition from pseudostratified columnar to stratified squamous epithelium.



Cyst wall showing blood vessels, nerve bundles, and minor salivary glands.

Treatment and prognosis

- Nasopalatine duct cysts are treated by surgical enucleation. Recurrence is rare.

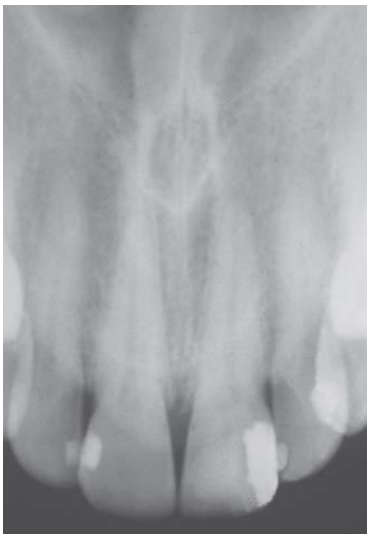
3.Median palatal (palatine) cyst

The median palatal cyst is a rare fissural cyst that theoretically develops from epithelium entrapped along the embryonic line of fusion of the lateral palatal shelves of the maxilla.

Clinical features

- The median palatal cyst presents as a firm or fluctuant swelling of the midline of the hard palate posterior to the palatine papilla. The lesion appears most frequently in young adults. Often it is asymptomatic, but some patients complain of pain or expansion.
- To differentiate the median palatal cyst from other cystic lesions of the maxilla, Gingell and associates suggested the following diagnostic criteria:
    1. Grossly appears symmetrical along the midline of the hard palate
    2. Located posterior to the palatine papilla
    3. Appears ovoid or circular radiographically
    4. Not intimately associated with a nonvital tooth
    5. Does not communicate with the incisive canal
    6. Shows no microscopic evidence of large neurovascular bundles, hyaline cartilage, or minor salivary glands in the cyst wall.

Well-circumscribed radiolucency apical to the maxillary incisors in the midline.



Histopathological features

Microscopic examination shows a cyst that is usually lined by stratified squamous epithelium. Areas of ciliated pseudostratified columnar epithelium have been reported in some cases.

Treatment

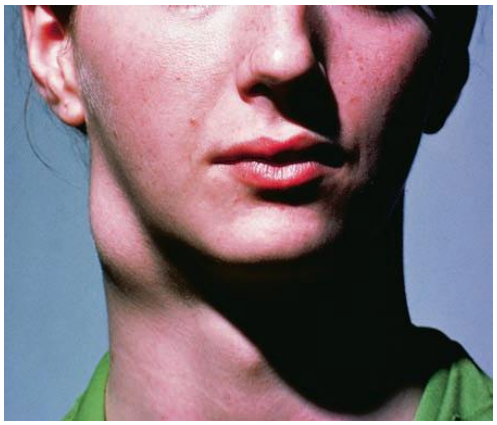
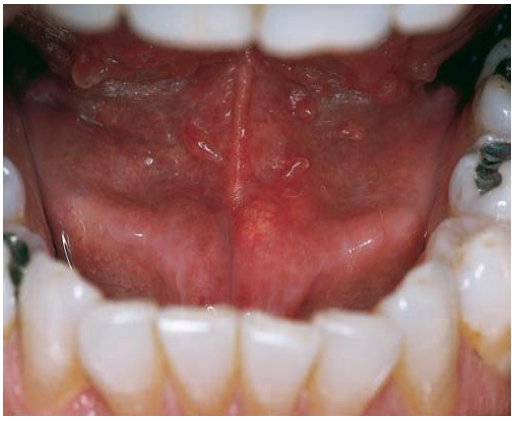
surgical removal. No recurrence.

4.Median Mandibular Cyst

Median mandibular cyst was thought to be a fissural cyst based on the theory of epithelial entrapment in the midline of the mandible during "fusion" of each half of the mandibular arch. Embryologic evidence suggests an isthmus of mesenchyme between the mandibular processes that is gradually eliminated as growth continues, and therefore no evidence of epithelial fusion. Cases diagnosed clinically as median mandibular cysts represent mainly glandular odontogenic cyst, periapical cyst, odontogenic keratocysts, or lateral periodontal cysts.

5. Branchial Cyst/Cervical Lymphoepithelial Cyst

Branchial (cleft) cysts, or cervical lymphoepithelial cysts, are located in the lateral portion of the neck, usually anterior to the sternomastoid muscle. These lesions may also appear in the submandibular area, adjacent to the parotid gland, or around the sternomastoid muscle. There is an intraoral lymphoepithelial cyst counterpart. The floor of the mouth is the most common site for these lesions, followed by the posterior lateral tongue. The current theory of origin proposes that epithelium is entrapped in cervical lymph nodes during embryogenesis. This epithelium, thought to be of salivary origin, would undergo cystic change at a later date.

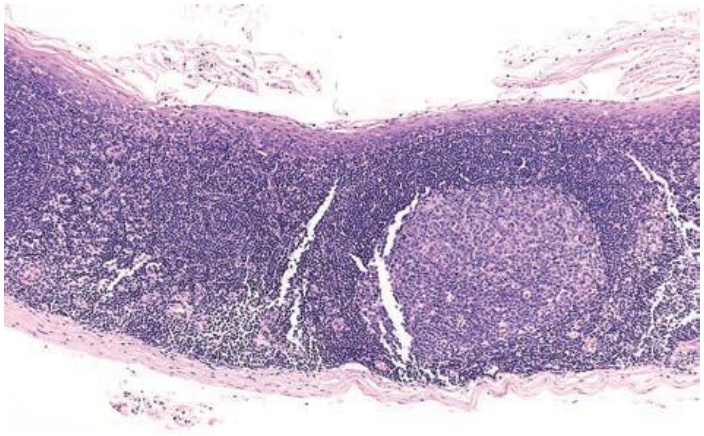
Cervical lymphoepithelial cyst.

Clinical Features

These asymptomatic cysts usually become clinically apparent in late childhood or young adulthood as a result of enlargement. Drainage may occur along the anterior margin of the sternomastoid muscle.

Histopathology

The branchial cyst is lined with stratified squamous epithelium, pseudostratified columnar epithelium, or both. The epithelium is supported by connective tissue containing lymphoid aggregates.



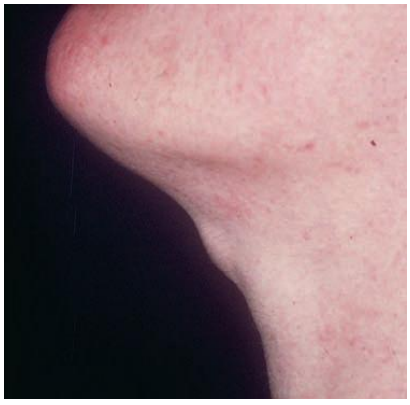
Treatment: Treatment is by surgical excision.

6.Thyroglossal Tract Cyst

Thyroglossal tract cysts are the most common developmental cysts of the neck, accounting for nearly three fourths of such lesions. The basis of this cystic pathology relates to thyroid gland development. Thyroid tissue becomes evident in the fourth week of gestation, when derivatives of first and second branchial arches form the posterior portion of the tongue in the region of the foramen caecum. The thyroid anlage grows downward from the foramen caecum area to its permanent location in the neck. Residual epithelial elements along this pathway that do not completely atrophy may give rise to cysts in later life from the posterior portion of the tongue (lingual thyroid) to the midline of the neck.

Clinical Features

- Any age particularly young adults
- Most cysts occur at the midline
- 2% occurring within the tongue itself.
- The majority (70%-80%) occurs below the level of the hyoid bone, with most cysts being generally asymptomatic.
- When attached to the hyoid bone and tongue, they may retract on swallowing or on extension of the tongue.
- If infected, drainage through a sinus tract may occur.



Histopathology

- Microscopic findings vary depending on the location of the cyst
- Lesions that occur above the level of the hyoid bone demonstrate a lining chiefly of stratified squamous epithelium.
- A ciliated or columnar type of epithelium is usually found in cysts that occur below the hyoid bone.
- Wide variation may be seen within a single cyst.
- Thyroid tissue may be present within the connective tissue wall.
- Rare malignancies arising within the thyroglossal tract are usually papillary thyroid adenocarcinomas.

Treatment

Treatment is by surgical excision

7. Dermoid Cyst

- Mass in midline of neck or floor of mouth (location depends on relationship to mylohyoid and geniohyoid muscles)
- Young adults
- Doughy by palpation because of sebum in lumen
- Microscopically, the dermoid cyst is lined by stratified squamous epithelium supported by a fibrous connective tissue wall. Numerous secondary skin structures, including hair follicles, sebaceous glands, and sweat glands (and occasionally teeth) may be found.
- Designated as teratoma if all three germ layers are represented

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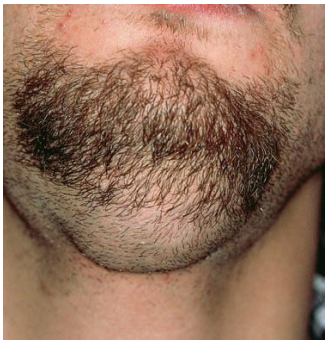
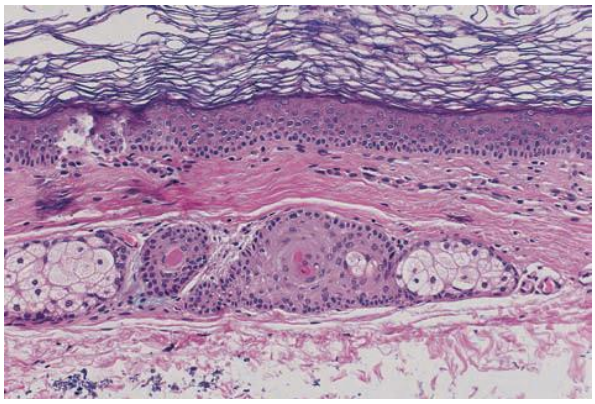




Dermoid cyst lined by keratinized epithelium with sebaceous glands and rudimentary hair in the supporting connective tissue.

- Treatment is by surgical excision

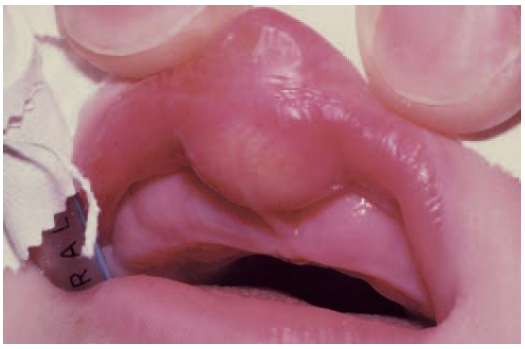
8.Epidermoid cyst

Follicular cysts of the skin are common keratin-filled lesions that arise from one or more portions of the hair follicle. The most common type, which is derived from the follicular infundibulum, is known as an epidermoid or infundibular cyst. These cysts often arise after localized inflammation of the hair follicle and probably represent a nonneoplastic proliferation of the infundibular epithelium resulting from the healing process.

Clinical features

Epidermoid (infundibular) cysts account for approximately 80% of follicular cysts of the skin and are most common in the acne-prone areas of the head, neck, and back.

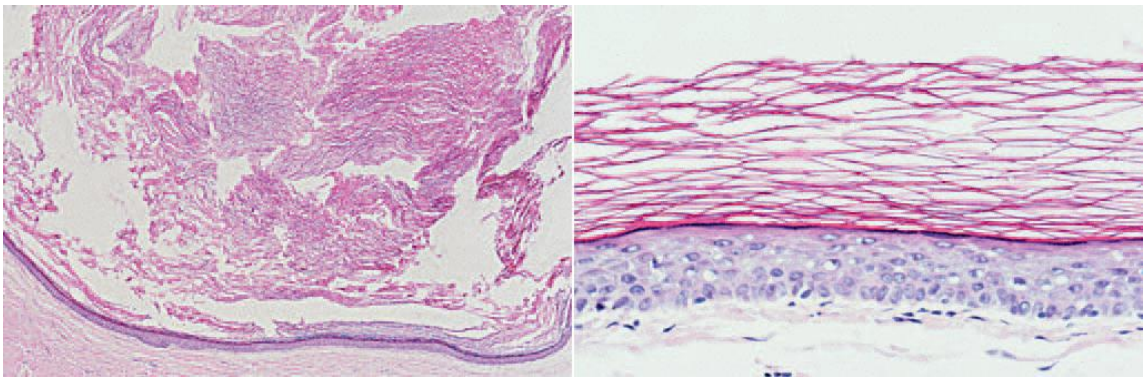
They are unusual before puberty unless they are associated with Gardner syndrome. Epidermoid cysts present as nodular, fluctuant subcutaneous lesions that may or may not be associated with inflammation.



Epidermoid cyst: Infant with a mass in the upper lip.

Histopathological features:

Microscopic examination of an epidermoid cyst reveals a cavity that is lined by stratified squamous epithelium resembling epidermis. A well-developed granular cell layer is seen, and the lumen is filled with degenerating orthokeratin. The epithelial lining may disrupt leading to prominent granulomatous inflammatory reaction, including multinucleated giant cells, which present in the cyst wall because the exposed keratin is recognized as a foreign material.



Treatment: Epidermoid cysts are usually treated by conservative surgical excision

9.Globulomaxillary cyst

Globulomaxillary cyst was supposed to be a fissural cyst that arise from epithelium entrapped during fusion of the globular portion of the medial nasal process with the maxillary process. This concept has been questioned because the globular portion of the medial nasal process is primarily united with the maxillary process and a fusion does not occur. Therefore, epithelial entrapment should not occur during embryologic development of this area. Virtually all cysts in the globulomaxillary region (between the lateral incisor and canine teeth) can be explained on an odontogenic basis. Many are lined by inflammed stratified squamous epithelium and are consistent with periapical cysts. Some exhibit specific histopathologic features of an odontogenic keratocyst or developmental lateral periodontal cyst. Because a fissural cyst in this region probably does not exist, the term globulomaxillary cyst should no longer be used. When a radiolucency between the maxillary lateral incisor and canine is encountered, the clinician should first consider an odontogenic origin for the lesion.