
In the name of God

Neoplasm of salivary gland

- Patient evaluation :
- Benign neoplasm : painless , slow growing mass , movable , no nerve paralysis
- Malignant neoplasm : pain/painless but would be nerve paralysis, pain, fixation ,cervical adenopathy

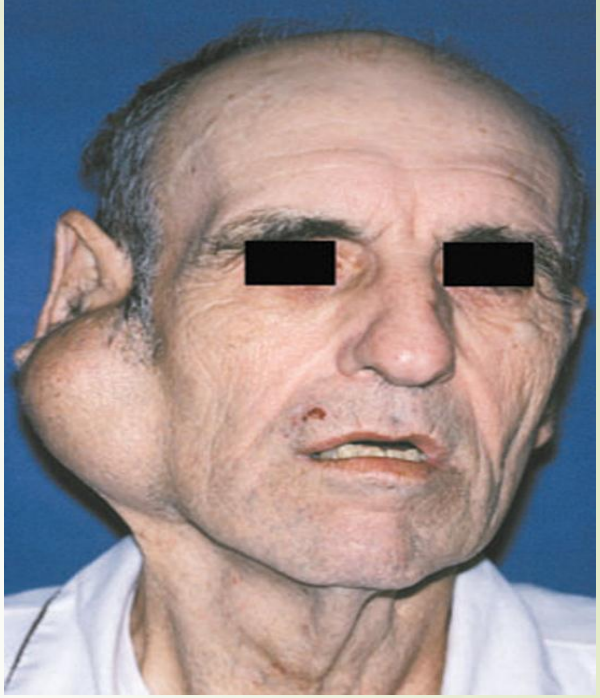
Benign tumor

- Pleomorphic adenoma (Mixed tumor)
- Warthin's tumor
- Oncocytoma
- Monomorphic tumors
- Other benign tumors

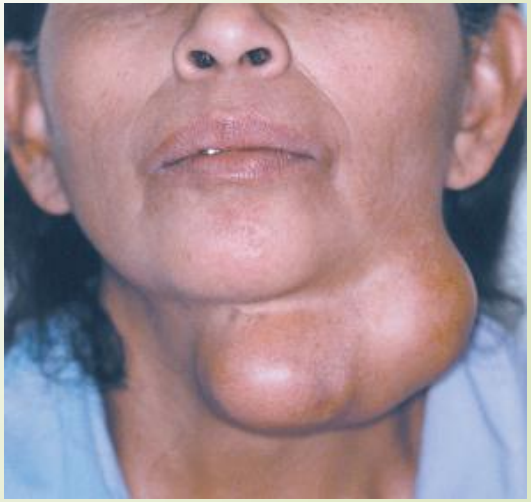
Pleomorphic adenoma

- Benign mixed tumors
- most common tumor of all salivary gland (parotid>submandibular>minor salivary gland)
- 50% to 77% of parotid tumors, 53% to 72% of submandibular tumors, and 33% to 41% of minor gland tumors.
- the lesion are slow growing mass and asymptomatic.
- Pleomorphic adenoma is also the most common primary salivary gland tumor to develop during childhood.
- There is a slight female predilection.

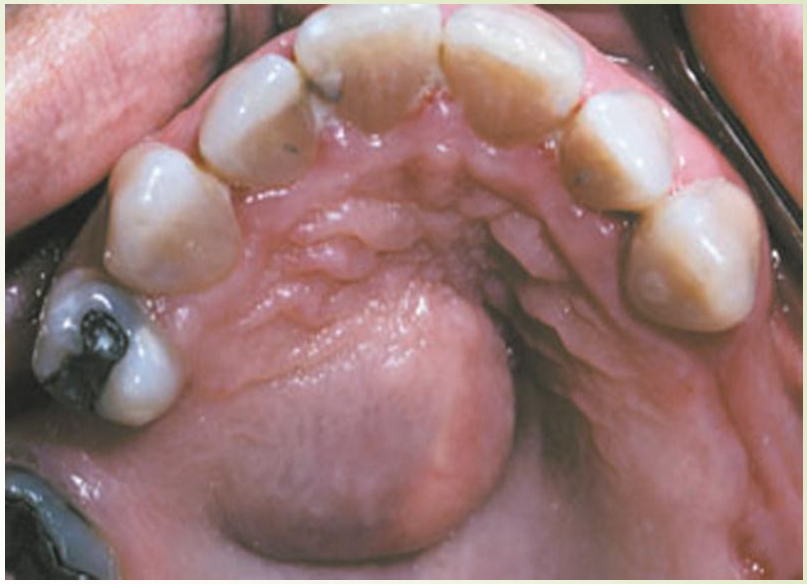
Clinical and Radiographic Features



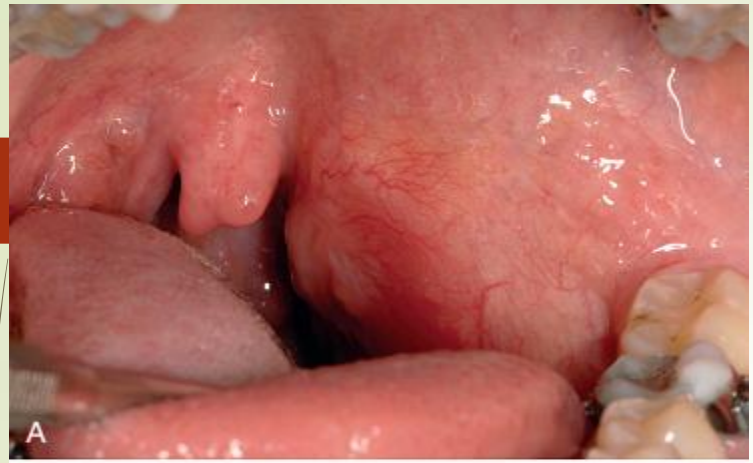
- parotid gland occur :in the superficial lobe
- a swelling overlying the mandibular ramus in front of the ear.
- Initially, the tumor is movable
- becomes less mobile as it grows larger.
- About 10% : within the deep lobe of the gland
- beneath the facial nerve

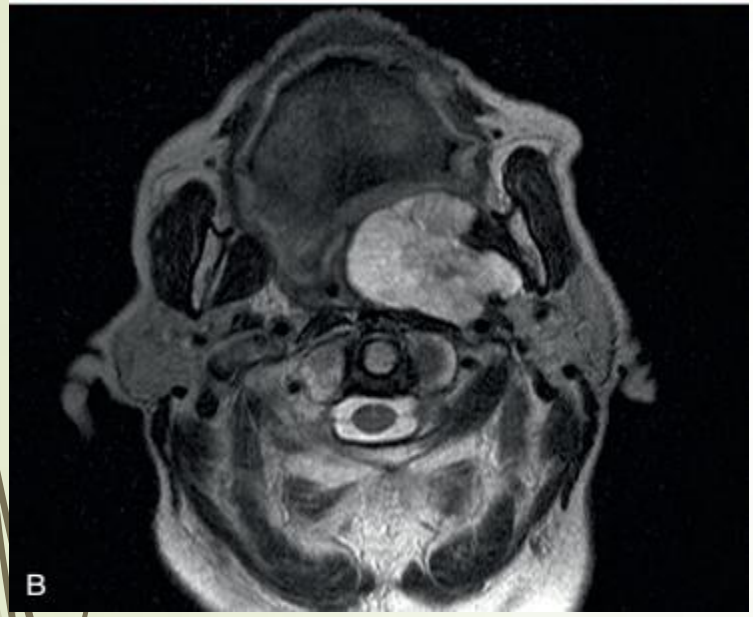


Clinical and Radiographic Features

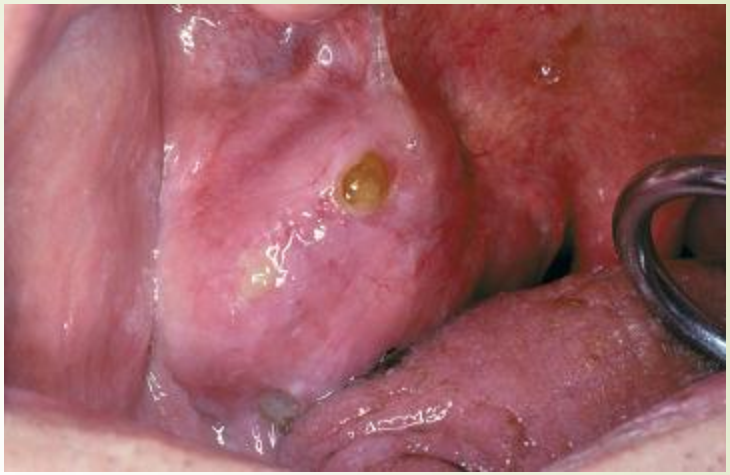


- The palate is the most common site for minor gland mixed tumors, 50% to 65%of intraoral examples.
- Upper lip (19% to 27%) and buccal mucosa (13% to 17%).
- Posterior lateral aspect of the palate, presenting as smooth-surfaced, dome-shaped masses traumatized: secondary ulceration
- Palate : not movable
- The lip or buccal mucosa :mobile.



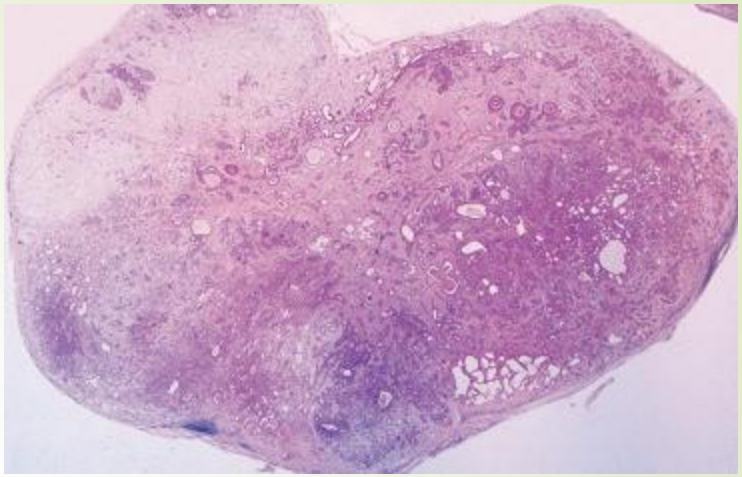


Pleomorphic Adenoma. A, Large tumor from the deep lobe of the parotid gland, which has resulted in a firm mass of the lateral soft palate. B, Contrast-enhanced axial magnetic resonance image (MRI) of a tumor of the deep lobe of the parotid gland.

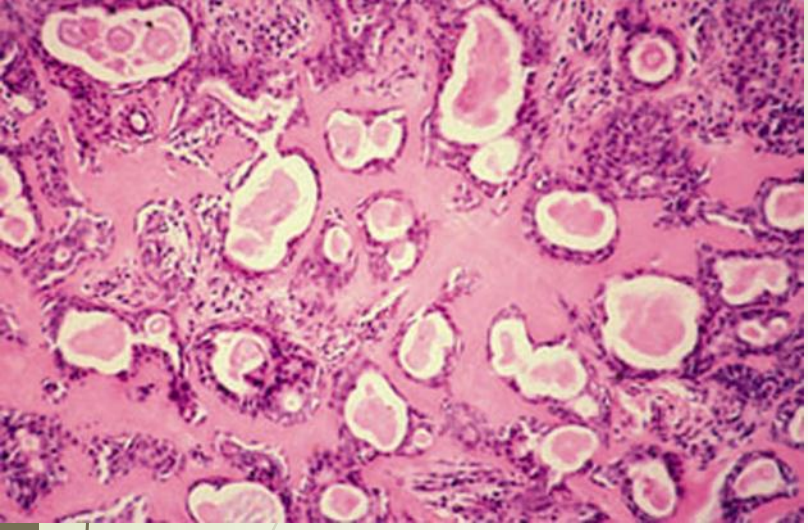


Pleomorphic Adenoma.Tumor of the pterygomandibular area.

Pleomorphic adenoma

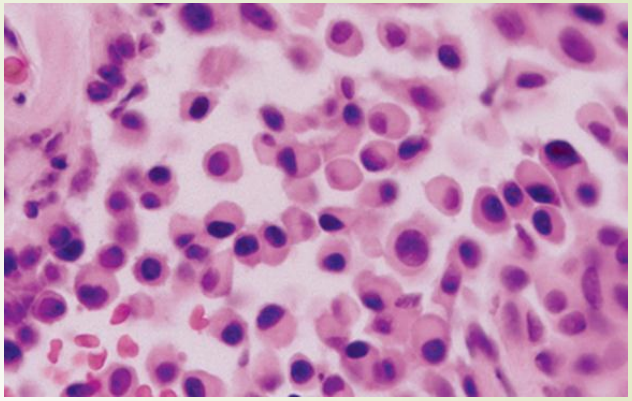


- Histopathologic Features
- The pleomorphic adenoma is typically a well-circumscribed, encapsulated tumor .However, the capsule may be incomplete or show infiltration by tumor cells.
- This lack of complete encapsulation is more common for minor gland tumors, especially along the superficial aspect of palatal tumors beneath the epithelial surface.



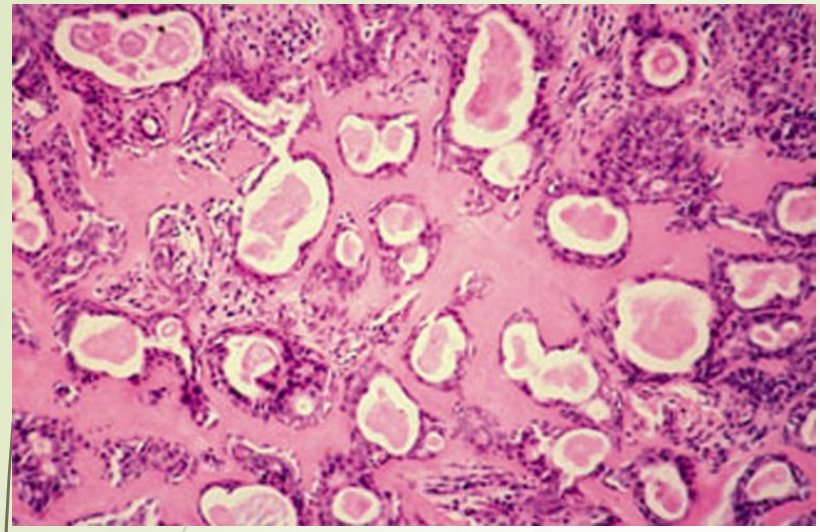
- The tumor is composed of a mixture of glandular epithelium and myoepithelial cells within a mesenchyme-like background.
- The ratio of the epithelial elements and the
- mesenchyme-like component is highly variable among different tumors.
- Some tumors may consist almost entirely of
- background “stroma.” Others are highly cellular with little background alteration.

Pleomorphic Adenoma

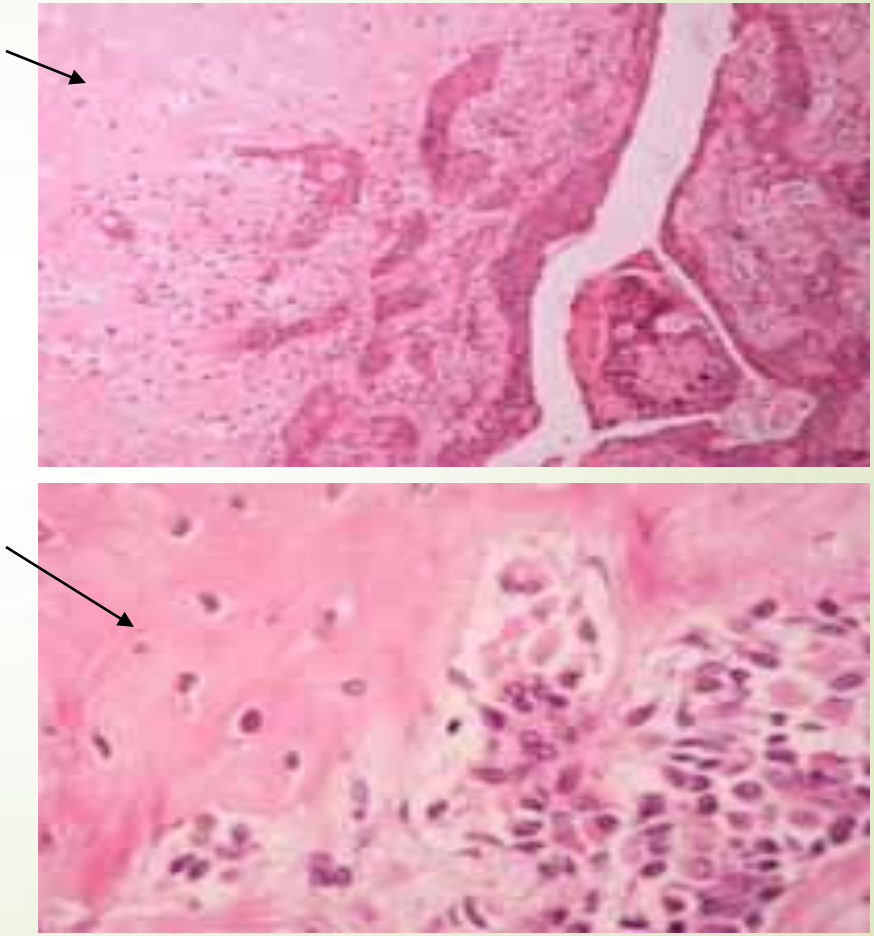


- Epithelial Components
  - Tubular and cord-like arrangements
  - Cells contain a moderate amount of cytoplasm
  - Mitoses are rare
- Stromal or "mesenchymal" Components
  - Can be quite variable
  - Attributable to the myoepithelial cells
  - Most tumors show chondroid (cartilaginous) differentiation
  - Osseous metaplasia not uncommon
  - Relatively hypocellular and composed of pale blue to slightly eosinophilic tissue.

Pleomorphic Adenoma

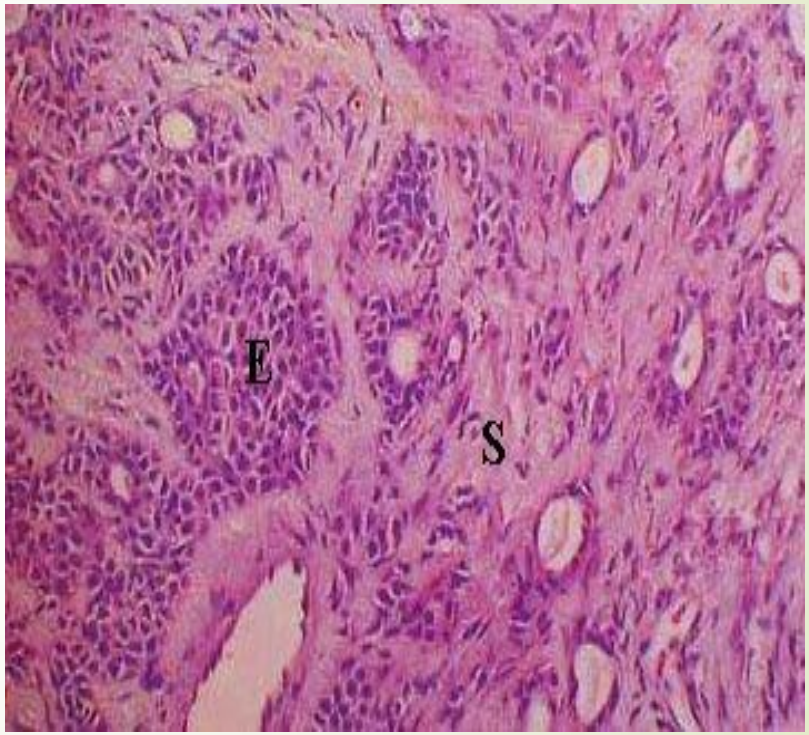


- The diverse microscopic pattern of this lesion is one of its most characteristic features.
- Islands of cuboidal cells arranged in ductlike structures is a common finding.
- Loose chondromyxoid stroma, hyalinized connective tissue, cartilage(arrows) and even osseous tissue are observed.
- This neoplasm is typically encapsulated, although tumor islands may be found within the fibrous capsule.



Pleomorphic Adenoma

- pleomorphic adenoma contains both epithelial (E) and stromal (S) components.

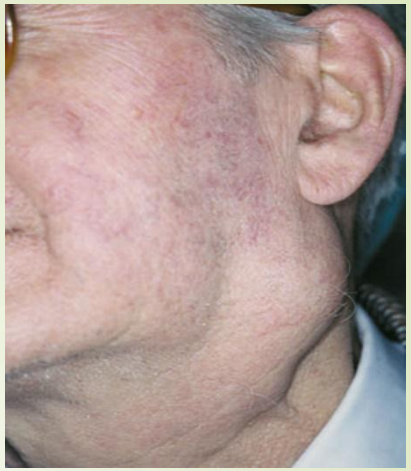


Treatment and Prognosis

- Pleomorphic adenomas are best treated by surgical excision.For lesions in the superficial lobe of the parotid gland, superficial parotidectomy with identification and preservation of the facial nerve is ecommended. Local enucleation should be avoided because the entire tumor may not be removed or the capsule may be violated, resulting in seeding of the tumor bed. For tumors of the deep lobe of the parotid, total parotidectomy is usually necessary, also with preservation of the facial nerve, if possible. Submandibular tumors are best treated by total removal of the gland with the tumor. Tumors of the hard palate usually are excised down to periosteum, including the overlying mucosa. In other oral sites the lesion often enucleates easily through the incision site.

- With adequate surgery the prognosis is excellent, with a cure rate of more than 95%. The risk of recurrence appears to be lower for tumors of the minor glands. Conservativeenucleation of parotid tumors often results in recurrence, with management of these cases made difficult as a result of multifocal seeding of the primary tumor bed. In such cases, multiple recurrences are not unusual and may necessitate adjuvant radiation therapy. Tumors with a predominantly myxoid appearance are more susceptible to recur than those with other microscopic patterns.

Warthin's Tumor (PAPILLARY CYSTADENOMA LYMPHOMATOSUM)



- Warthin tumor is a benign neoplasm that occurs almost exclusively in the parotid gland. Although it is much less common than the pleomorphic adenoma, it represents the second most common benign parotid tumor, accounting for 5% to 22% of all parotid neoplasms. The name adenolymphoma also has been used for this tumor, but this term should be avoided because it overemphasizes the lymphoid component and may give the mistaken impression that the lesion is a type of lymphoma. Analyses of the epithelial and lymphoid components of the Warthin tumor usually have shown both to be polyclonal; this suggests that this lesion may not represent a neoplasm but would be better classified as a tumorlike process.
- The pathogenesis of Warthin tumor is uncertain. The traditional hypothesis suggests that it arises from heterotopic salivary gland tissue found within parotid lymph nodes. However, researchers have also suggested that these tumors may develop from a proliferation of salivary gland ductal epithelium that is associated with secondary formation of lymphoid tissue. A number of studies have demonstrated a strong association between the development of this tumor and smoking. Smokers have an eightfold greater risk for Warthin tumor than do nonsmokers.

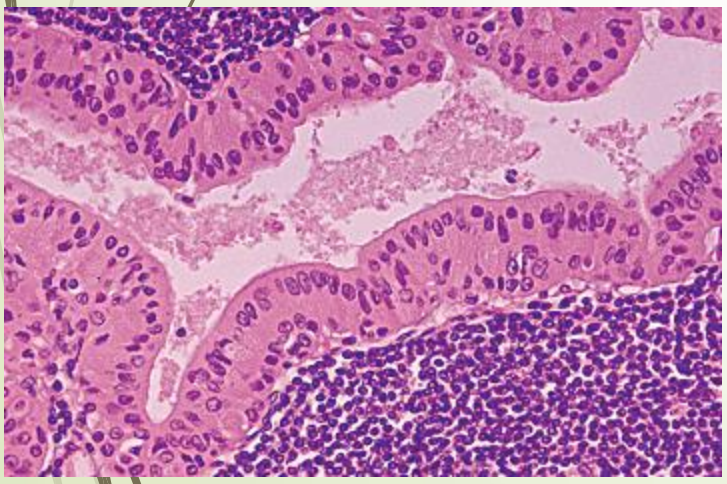
Clinical Features

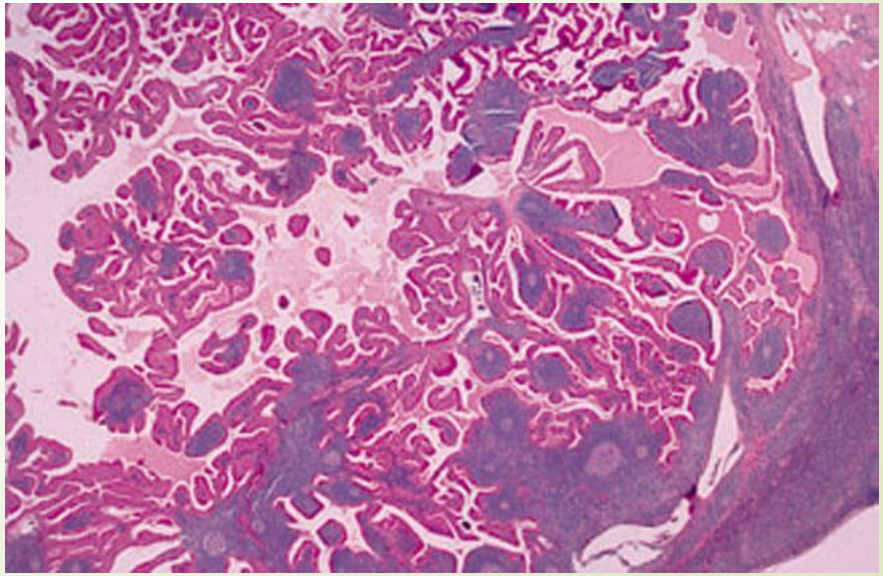
- The Warthin tumor usually appears as a slowly growing, painless, nodular mass of the parotid gland. It may be firm or fluctuant to palpation. The tumor most frequently occurs in the tail of the parotid near the angle of the mandible, and it may be noted for many months before the patient seeks a diagnosis.
- One unique feature is the tendency of Warthin tumor to occur bilaterally, which has been noted in 5% to 17% of reported cases. Most of these bilateral tumors do not occur simultaneously but are metachronous (occurring at different times).

- In rare instances, the Warthin tumor has been reported within the submandibular gland or minor salivary glands.
- However, because the lymphoid component is often less pronounced in these extraparotid sites, the pathologist should exercise caution to avoid overdiagnosis of a lesion better classified as a papillary cystadenoma or a salivary duct cyst with oncocytic ductal metaplasia.Warthin tumor most often occurs in older adults, with peak prevalence in the sixth and seventh decades of life. The observed frequency of this tumor is much lower in blacksthan in whites. Most studies show a decided male predilection, with some early studies demonstrating a male-tofemale ratio up to 10 : 1. However, more recent investigations
- show a more balanced sex ratio. Because Warthin tumors
- have been associated with cigarette smoking, this changing
- sex ratio may be a reflection of a more equal prevalence of
- smoking in women over the past few decades. This association with smoking also may help explain the frequent bilaterality of the tumor, because any tumorigenic effects of smoking would be manifested in both parotids.

Histopathologic Features

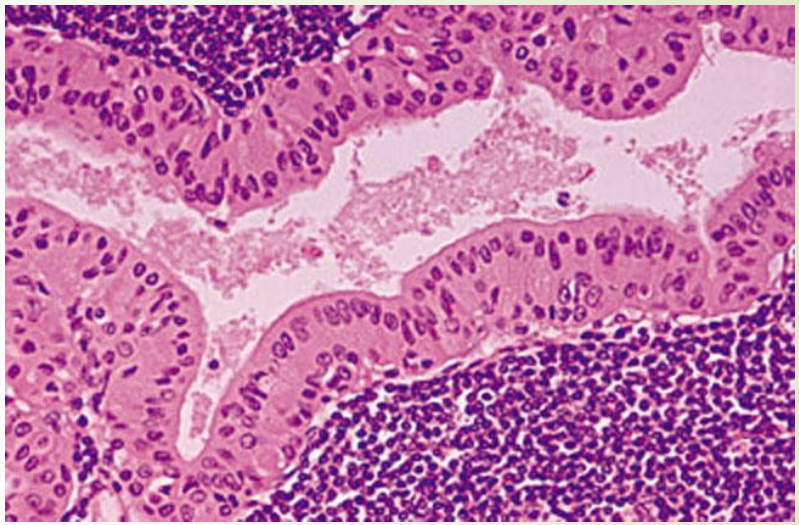
- The Warthin tumor has one of the most distinctive histopathologic patterns of any tumor in the body. Although the
- term papillary cystadenoma lymphomatosumis cumbersome, it accurately describes the salient microscopic
- features.
- The tumor is composed of a mixture of ductal epithelium and a lymphoid stroma.





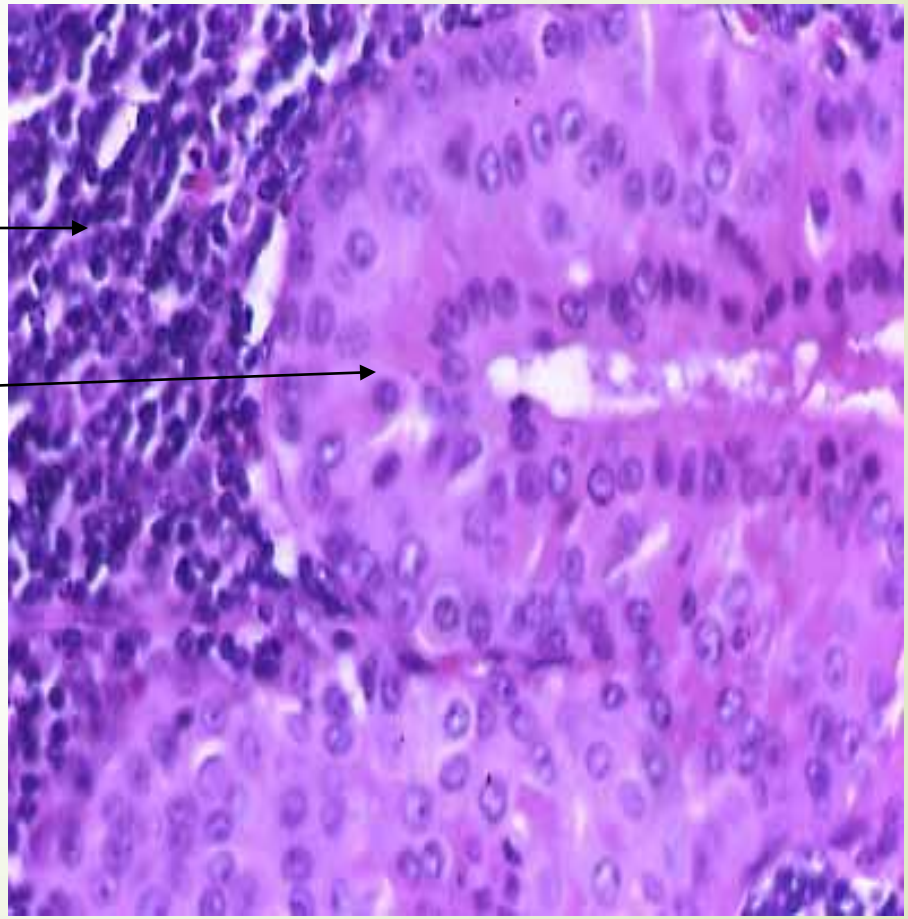
Warthin's Tumor

- The epithelium is oncocytic in nature, forming uniform rows of cells surrounding cystic spaces. The cells have abundant, finely granular eosinophilic cytoplasm and are arranged in two layers. The inner luminal layer consists of tall columnar cells with centrally placed, palisaded, and slightly hyperchromatic nuclei. Beneath this is a second layer of cuboidal or polygonal cells with more vesicular nuclei. The lining epithelium demonstrates multiple papillary infoldings that protrude into the cystic spaces. Focal areas of squamousmetaplasia or mucous cell prosoplasia may be seen.
- The epithelium is supported by a lymphoid stroma that frequently shows germinal center formation.

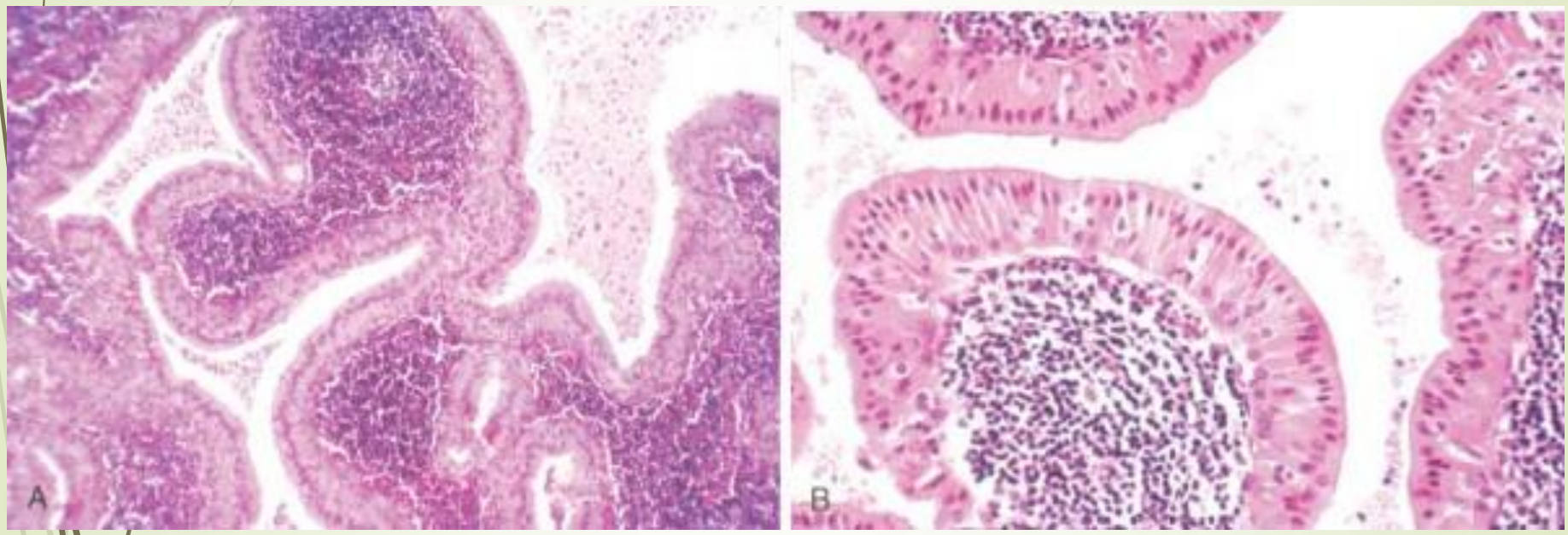


Warthin's Tumor

- High Power
- Lymphocytc infilterates.
- Bilayer of epithilium.



Warthin's Tumor



Treatment and Prognosis

Surgical removal is the treatment of choice for most patients with Warthin tumor. The procedure usually is easily accomplished because of the superficial location of the tumor.

Some surgeons prefer local resection with minimal surrounding tissue; others opt for superficial parotidectomy to avoid violating the tumor capsule and because a tentative diagnosis may not be known preoperatively. If a confident diagnosis of Warthin tumor can be made by fine-needle aspiration cytology of a non-suspicious parotid growth, some clinicians will elect to manage the patient conservatively with regular follow-up visits rather than surgery.

A 2% to 6% recurrence rate has been reported following surgery. Many authors, however, believe that the tumor is frequently multicentric in nature; therefore, it is difficult to determine whether these are true recurrences or secondary tumor sites. Malignant Warthin tumors (carcinoma ex papillary cystadenoma lymphomatosum) have been reported but are exceedingly rare.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