ORAL PATHOLOGY

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Salivary Gland Tumors

Classification:

Based on the WHO (1991), the salivary gland tumors are classified into:

1-Epithelial tumors

(a) Adenoma: which is in turn divided into
pleomorphic adenoma, monomorphic adenoma

(b) Carcinoma: such as

- mucoepidermoid carcinoma
- acinic cell carcinoma
- adenoid cystic carcinoma
- adenocarcinoma
- epidermoid carcinoma
- carcinoma in pleomorphic adenoma
- undifferentiated carcinoma

2-Non-epithelial tumors :

lymphoma & sarcoma

Benign epith. tumor (adenoma)

1-Pleomorphic adenoma: (benign mixed tumor)

It is the commonest benign tumor of the S.G., mostly affect the parotid gland (65%).

The origin of the tumor cell, it is thought to be arise from the myoepithelial cells or ductal epithelium.

Clinically

The tumor present as a slow growing, painless, rubbery swelling, & may reach to several cms.

The tumor show no fixation to the deeper tissue & the overlying skin or mucosa is usually intact.

Intraorally, mostly affect the palate & appear as smooth surface swelling resembles a fibroma.

The tumor can occur at any age, but the majority of patients are in the

5th & 6th decades of life, & there is slightly female preponderance

HISTOPATHOLOGY

The tumor is a circumscribed encapsulated tumor, although a capsule does not always envelop the lesion completely.

The lesion characterized by it's pleomorphic & show a great variation in appearance.

1-cuboidal epith.cells arranged in tubular or duct like structures which may contain an eosinophilic coagulum.

2-the epith.duct cells, vary in size , shape, number, & distribution.

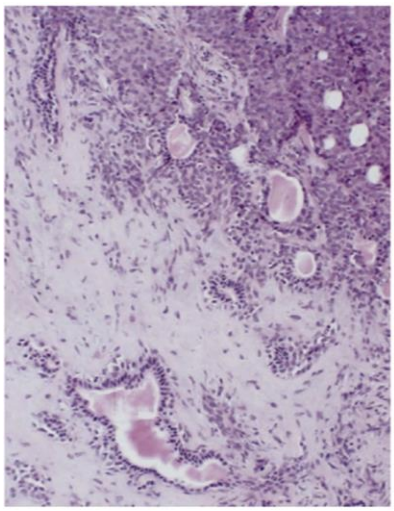
3-sometimes the cells may assume a stillate polyhedral or spindle form.

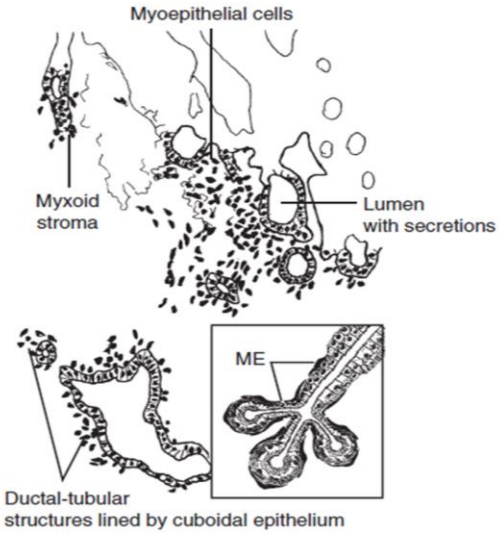
4-areas of squamous metaplasia & epith. pearl formation may also be present.

5-loose myxoid tissue (embryonic type of tissue).

6-areas of hyaline cartilage or even bone may be present.

N.B: malignant transformation can occur, usually in tumors that stand for many years.





Treatment

1-parotid gland: by wide excision, but recurrence rate in this position is high, due to presence of facial nerve.

2-in submand. Gland: the tumor removed with the whole gland, because of possibility of malignancy.

3-in minor salivary gland of the palate, the tumor should be excised with the overlying mucosa.

2-Monomorphic adenoma

This lesion is consist of a group of benign S.G. tumors which have a uniform histopathologic pattern.

A variety of tumors were included under the heading of monomorphic adenoma, & these are:

A. warthin's tumor
B. Oncocytoma
C. Basal cell adenoma
D. Canalicular adenoma

C- Basal cell adenoma

It is a rare type of S.G. tumors, the name is derived from the basaloid

appearance of the tumor cells.

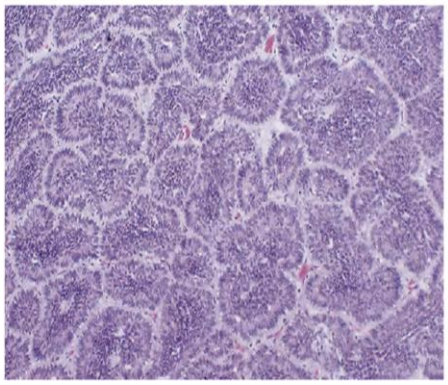
It is primarily a tumor of parotid gland, but it can occur intra orally, specially the upper lip.

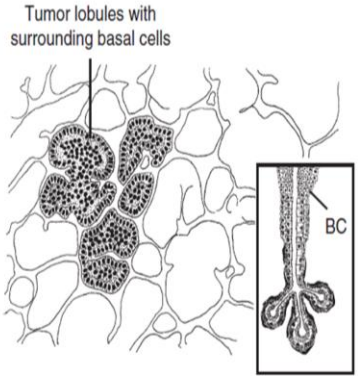
Clinically

1- A slowly growing, freely mobile mass similar to pleomorphic adenoma.
2- occur at any age, but mainly the middle age group with female predominance

Histopathological

It has a well-defined capsule, the cells are similar to the basal cell, with a basophilic round to ovoid nuclei & scanty cytoplasm.





Treatment:

By complete surgical removal.

D- Canalicular adenoma

This tumor occurs mainly in patients over 50 years of age, & almost all cases are located in the upper lip.

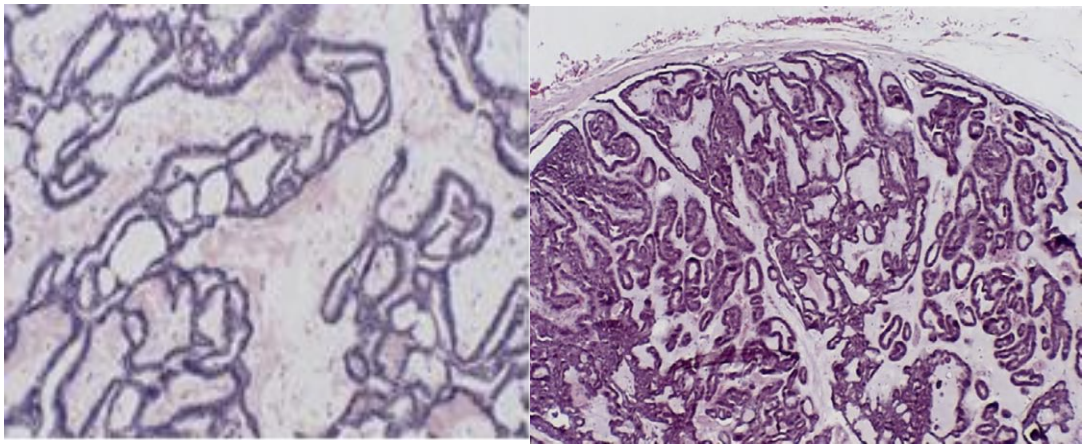
present as slowly growing ,painless lesion.

HISTOPATHLOGICAL

1-Characterized by single layer of columnar or cuboidal epith.

2-in some area adjacent parallel cords of the cells may be seen.

3-sometime, cystic spaces may be seen between the tumor cords & filled with eosinophilic coagulum.



Treatment:
by surgical excision

Malignant tumors of salivary gland

MUCOEPIDERMOID CARCINOMA

The **mucoepidermoid carcinoma** is one of the most common salivary gland malignancies. Because of its highly variable biologic potential, it was originally called **mucoepidermoid tumor.**

The term recognized one subset that acted in a malignant fashion and a second group that appeared to behave in a benign fashion with favorable prognosis. However, researchers later recognized that even low-grade tumors occasionally could exhibit malignant behavior; therefore, the term *mucoepidermoid carcinoma* is the preferred designation.

Clinical features

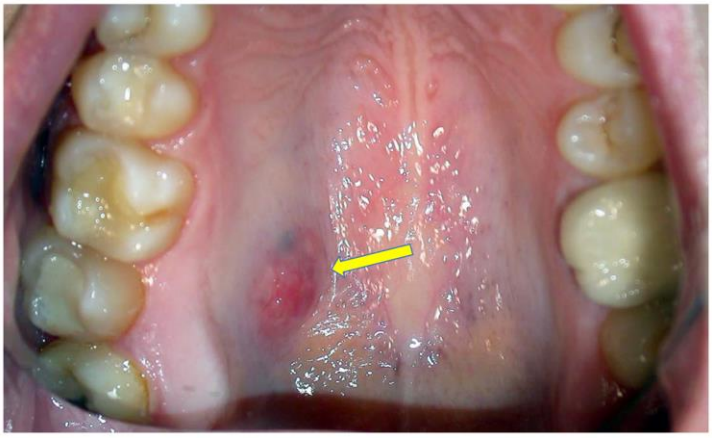
The tumor occurs fairly evenly over a wide age range, extending from the second to seventh decades of life. Rarely is it seen in the first decade of life, The mucoepidermoid carcinoma is most common in the parotid gland and usually appears as an asymptomatic swelling. Most patients are aware of

the lesion for 1 year or less, although some report a mass of many years' duration. Pain or facial nerve palsy may develop, usually in association with high-grade tumors

The minor glands constitute the second most common site, especially the palate .

Minor gland tumors also typically appear as asymptomatic swellings, which are sometimes fluctuant and have a blue or red color that can be mistaken clinically for a mucocele.

Although the lower lip, floor of mouth, tongue, and retro molar pad areas are uncommon locations for salivary gland neoplasia, the mucoepidermoid carcinoma is the most common salivary tumor in each of these sites. Intraosseous tumors also may develop in the jaws

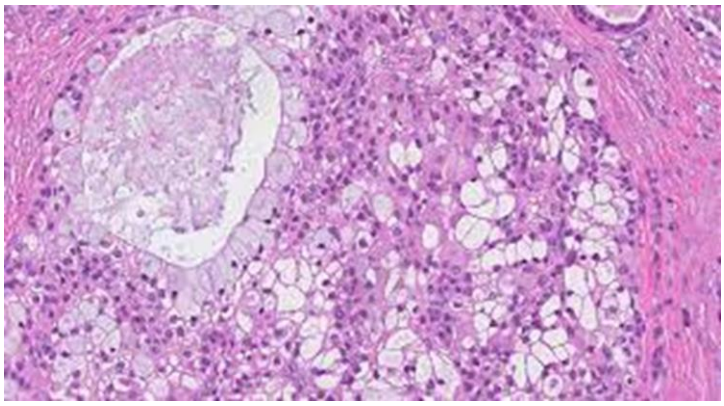


Histopathological features :

From its name the mucoepidermoid CA is composed of a mixture of mucous –producing cells and epidermoid or squamous cells .

If the mucous – secreting cells are mainly predominant then the tumor tend to be cystic, if mainly epidermoid the tumor is solid and then more aggressive.

There is no well-defined capsule, and is invasive and occasionally metastasized.



Treatment: is by wide excision but the tumor may recur

ADENOID CYSTIC CARCINOMA

The adenoid cystic carcinoma is one of the more common and best-recognized salivary malignancies. Because of its distinctive histopathologic features, it was originally called a cylindroma, and this term still is used sometimes as a synonym for this neoplasm.

CLINICAL AND RADIOGRAPHIC FEATURES

The adenoid cystic carcinoma can occur in any salivary gland site, but approximately 50% to 60% develop within the minor salivary glands.

The palate is the most common site for minor gland tumors .

The remaining tumors are found mostly in the parotid and submandibular glands, with a fairly even distribution between these two sites.

The lesion is most common in middle-aged adults and is rare in people younger than age 20.

The adenoid cystic carcinoma usually appears as a slowly growing mass. Pain is a common and important finding, occasionally occurring early in the course of the disease before there is a noticeable swelling. Patients often complain of a constant, low-grade, dull ache, which gradually increases in intensity. Palatal tumors can be smooth surfaced or ulcerated. Tumors arising in the palate or maxillary sinus often show radiographic evidence of bone destruction

Histopathology:

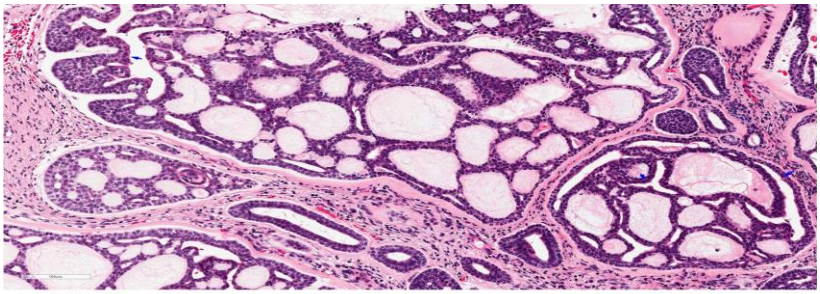
The adenoid cystic carcinoma is composed of a mixture of myoepithelial cells and ductal cells that can have a varied arrangement.

Three major patterns are recognized: (1) cribriform, (2) tubular, and (3) solid.

Usually a combination of these is seen, and the tumor is classified based on the predominant pattern

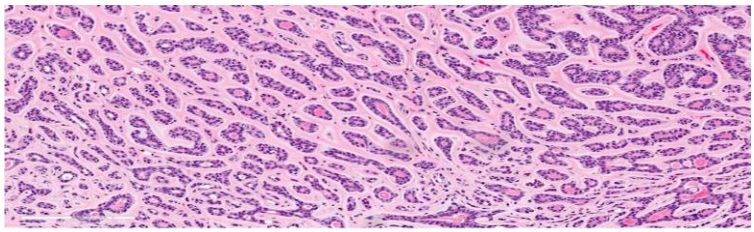
1. Composed of small, deeply staining uniform cells resemble basal cells, which are commonly arranged in anastomosing cords or duct like pattern with mucoid material in the center.

   This produce a typical cribriform (honey comb or Swiss cheese appearance) pattern.



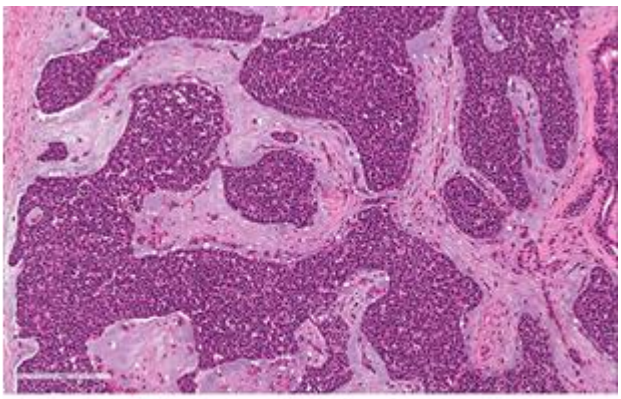
Cribriform pattern is composed predominantly of myoepithelial cells admixed with hyalinized or myxoid globules. Scattered ductal elements (arrows) may also been present.

2. In the tubular pattern, the tumor cells are similar but occur as multiple small ducts or tubules within a hyalinized stroma.



Tubular pattern is composed of inner ductal and outer myoepithelial cells. The ductal cells are cuboidal with eosinophilic cytoplasm. The myoepithelial cells are angulated and basaloid.

3. The solid form consist of larger islands or sheets of tumor cells which show little tendency toward duct or cyst formation.



Tumor cells forming solid sheets and nests.

Spread of the tumor cells along the perineural sheaths is a common feature of the disease.

Treatment:

Surgical removal with radiation. Metastasis occurs late in the course of the disease.

MALIGNANT MIXED TUMORS

Malignant mixed tumors represent malignant counterparts to the benign mixed tumor or pleomorphic adenoma. These uncommon neoplasms constitute 2% to 6% of all salivary tumors and can be divided into three categories:

1. Carcinoma ex pleomorphic adenoma (carcinoma ex mixed tumor)

2. Carcinosarcoma

3. Metastasizing mixed tumor

The most common of these is the carcinoma ex pleomorphic adenoma, which is characterized by malignant transformation of the epithelial component of a previously benign pleomorphic adenoma.

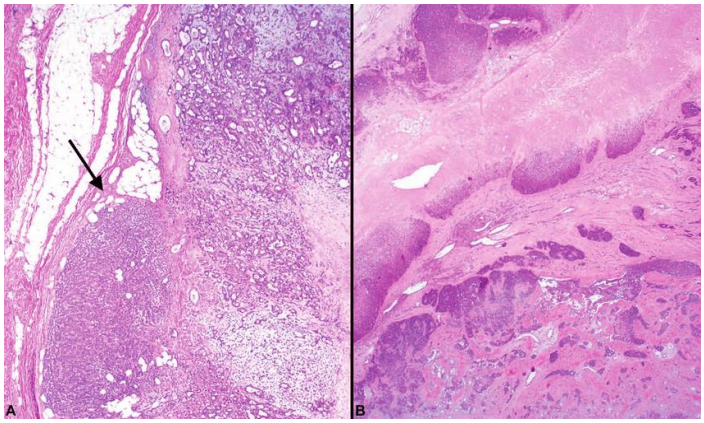
CLINICAL FEATURES

The mean age of patients with this tumor is about 15 years older than that for the benign pleomorphic adenoma. It is most common in middle aged and older adults, with a peak prevalence in the sixth to eighth decades of life. In addition, patients may report that a mass has been present for many years, sometimes undergoing a recent rapid growth with associated pain or ulceration.

HISTOPATHOLOGIC FEATURES

Areas of typical benign pleomorphic adenoma usually can be found and may constitute most or only a small portion of the lesion. Within the tumor are areas of malignant degeneration of the epithelial component, characterized by cellular pleomorphism and abnormal mitotic activity .

The malignant component often has an aggressive growth pattern, with capsular invasion and infiltration into surrounding tissues.



TREATMENT

Invasive carcinoma ex pleomorphic adenoma usually is best treated by wide excision, possibly in conjunction with local lymph node dissection and adjunctive radiation therapy.

POLYMORPHOUS LOW-GRADE ADENOCARCINOMA (LOBULAR CARCINOMA; TERMINAL DUCT CARCINOMA)

The polymorphous low-grade adenocarcinoma is a more recently recognized type of salivary malignancy that was first described in 1983. Before its identification as a distinct entity, examples of this tumor were

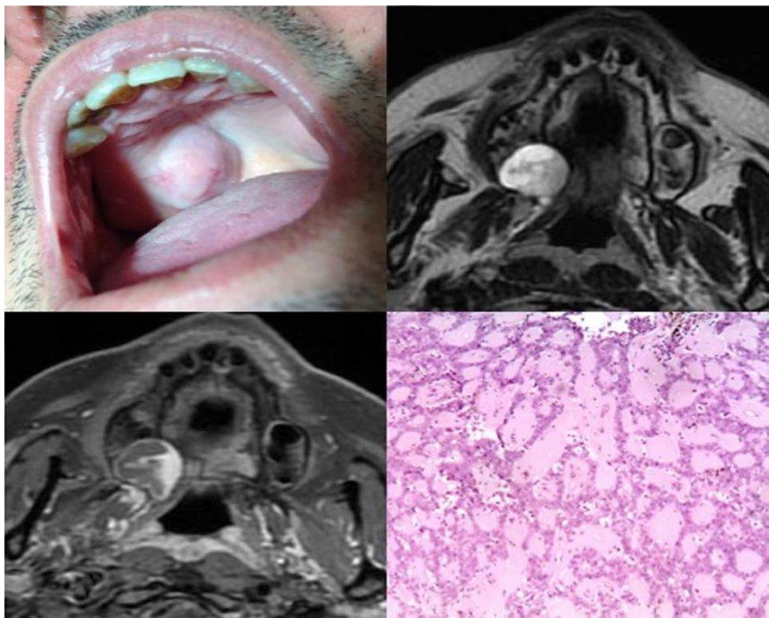
categorized as pleomorphic adenoma, an unspecified form of adenocarcinoma, or sometimes as adenoid cystic carcinoma. Once recognized as a specific entity, however, it was realized that this tumor possesses distinct clinicopathologic features and is one of the more common minor salivary gland malignancies.

CLINICAL FEATURES

The polymorphous low-grade adenocarcinoma is almost exclusively a tumor of the minor salivary glands. However, rare examples also have been reported in the major glands, either arising de novo or as the malignant component of a carcinoma ex pleomorphic adenoma. Sixty-five percent occur on the hard or soft palate , with the upper lip and buccal mucosa being the next most common locations. It is most common in older adults, having a peak prevalence in the sixth to eighth decades of life. Two thirds of all cases occur in females. The tumor most often appears as a painless mass that may have been present for a long time with slow growth. Occasionally, it is associated with bleeding or discomfort. Tumor can erode or infiltrate the underlying bone.

HISTOPATHOLOGIC FEATURES

The tumor cells of polymorphous low-grade adenocarcinomas have a deceptively uniform appearance. They are round to polygonal in shape, with indistinct cell borders and pale to eosinophilic cytoplasm. The cells can exhibit different growth patterns, hence, the polymorphous term. The cells may grow in a solid pattern or form cords, ducts, or larger cystic spaces. Extension into underlying bone or skeletal muscle may be observed.



TREATMENT

by wide surgical excision, sometimes including resection of the underlying bone.