*Lec. 23* *Dr. Ali H. Murad*

# *Soft Tissue Tumors*

## *Connective Tissue Hyperplasia*

It is the most common oral lesion occur inside the oral cavity in response to chronic inflammation or chronic irritation. Most C.T. hyperplasia represent exuberant production of granulation tissue in chronic inflammatory reactions.

C.T. hyperplasia can originate anywhere in the oral cavity, but those arising from the gingiva usually known as epulis.

The common localized C.T. hyperplasia of oral mucosa are:

1- Epulides: a- fibrous epulis b- P.G.C.G (giant cell epulis)

c-vascular epulieds (pyogenic granuloma, pregnancy epulis)

2- Pyogenic granuloma (not in the gum)

3- Fibroepithelial polyp

4- Denture irritation hyperplasia

5- Papillary hyperplasia of the palate

In general, hyperplasia of C.T. caused by:

1- reaction to injury & it is called "reactive hyperplasia"

2- as a result of benign transformation

3- malignant transformation

The most common causes of reactive hyperplasia are:

1- lip biting 2- check biting 3- ill-fitting denture 4- sharp edge of crown or bridge 5- plaque & calculus.

So, the stimulation of C.T. by these factors lead to stimulation of C.T. cells (fibroblast, endothelial --- etc.)

Which lead to production of granulation tissue then mass of C.T. in the position of irritation.

These lesions are called tumor like lesion, because:

In general, the term tumor refers to swelling, & because these lesions have clinical appearance of tumor but without cellular neoplasia, only hyperplasia, therefore the name is applied

Neoplasia: mean proliferation toward either benign or malignant according to the type of cytological changes.

Hyperplasia: mean just proliferation of the cell (increase in the number of the cell) without cytological abnormality (tumor like, but not true tumor)

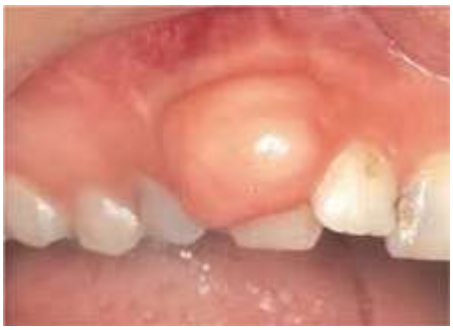
## *1-Epulides:*

### A- Fibrous epulis (focal fibrous hyperplasia):

It is hyperplasia of fibrous C.T. in response to chronic irritation in which there will be extensive production of mature bundle of collagen fibers resembling scar tissue.

Clinically:

Nodular swelling which is either pedunculated or sessile. The sessile one is firmly attached while pedunculated one is movable. Smooth surface with normal color (pinkish), but sometimes if it is exposed to injury or any irritation, it may ulcerated & covered by yellowish fibrinous exudates.

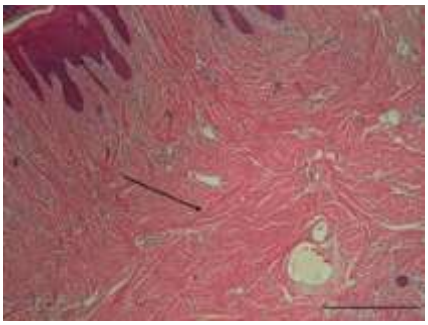


Histopathology:

1-epithelium: either normal or hyperkeratinized or ulcerated. & when there is ulcer we will have chronic inflammatory cells beneath the ulcer.

2- C.T.: show mass of richly cellular fibroblastic granulation tissue with interlacing bundles of mature collagen fibers. There is a variable numbers of chronic inflammatory cells infiltration, mainly plasma cells.

3- sometimes we see amorphous deposits of calcified masses either trabeculae of metaplastic bone or cementoid & this is due to stimulation of undifferentiated fibroblast or cementoblast, in such case the lesion give the histological appearance of ossifying fibroma which is intrabony lesion, but this is not the case, so it is called peripheral ossifying fibroma or cementifying fibroma.



Treatment:

1-remove the cause, the lesion will regress by itself.

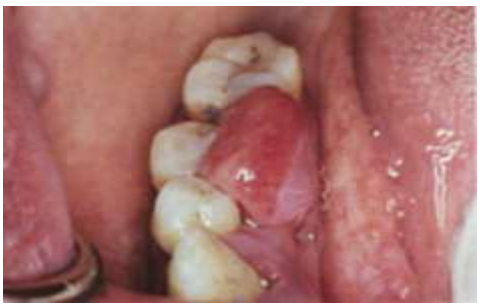
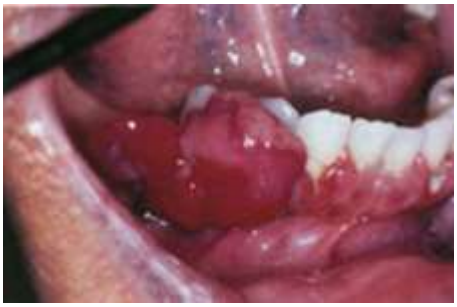
2-if not, surgical removal required.

**B- vascular epulis: Pyogenic granuloma & pregnancy tumor**

These two lesions are identical lesions, both clinically & histopathologically, but the pregnancy tumor is a pyogenic granuloma occur in pregnant women, otherwise it is pyogenic granuloma.

Clinically:

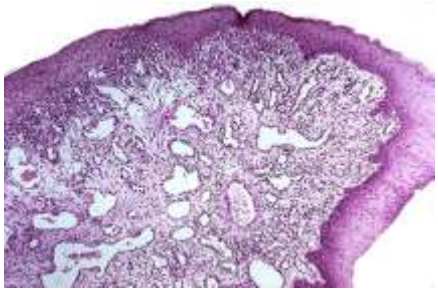
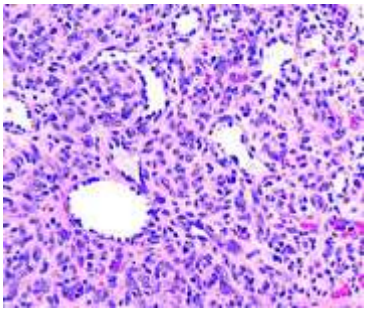
Mainly occur in the area of interdental papillae. soft in consistency. Deep reddish-purple swelling, which are extensively ulcerated. Hemorrhage may occur spontaneously or on minor trauma.

Histopathology:

1-epithelium: same as fibrous epulis.

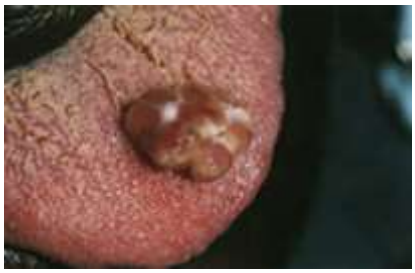
2- C.T.: composed of granulation tissue characterized by vascular proliferation, which appear as either solid of numerous small vessels & large, dilated, thin-walled vascular spaces. This vascular tissue is supported by a delicate cellular fibrous stroma. Inflammatory cells infiltration is variable but prominent beneath area of ulceration.

## *2- Pyogenic granuloma (not in the gingiva)*

Although the majority of pyogenic granuloma in the oral cavity arise on the gingiva, the lesion can occur at other sites, for e.g. the tongue, & buccal mucosa, as a result of trauma.

The clinical & histology are the same as for the gingival one.

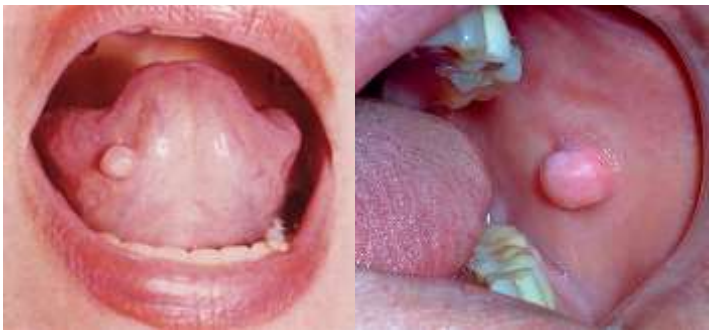


## *3- Fibroepithelial polyp*

When the fibrous epulis occur in area rather than the gingiva is called fibroepithelial polyp. It arises mainly in the checks along the occlusal line, lips, & tongue. Minor trauma is thought to be an important initiating factor.

Clinically:

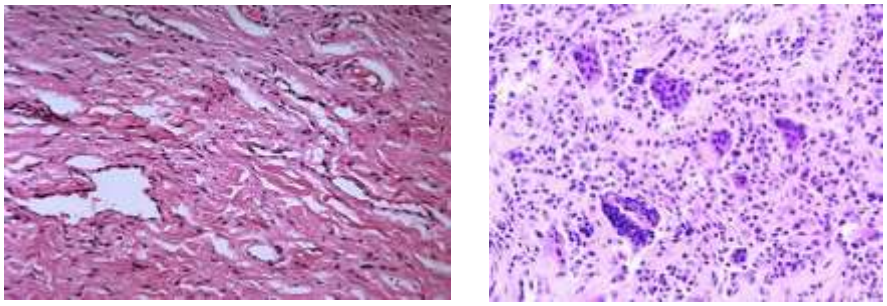
Appear as a firm, pink, painless, sessile or pedunculated, polypoid swelling with varying size from a few mm to a cm or more. When the lesion occurs in the palate under a denture it become leaf-like & referred to as a leaf fibroma.



Histopathology:

1- epithelium: either normal or hyperkeratinized due to friction.

2-C.T., show dense, relatively avascular & acellular or has little scanty fibroblast, composed of bundles of collagen fibers. No inflammatory cell infiltration unless there is secondary infection. Occasionally, multinucleated cells observed in the subepithelium zone, & such lesions are referred as giant cell fibroma.



## *4- Denture irritation hyperplasia*

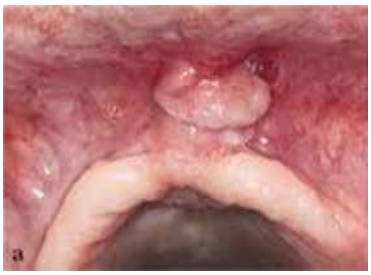
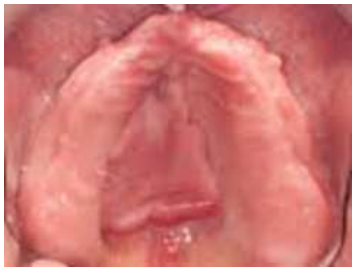
Lesion related to the periphery (flange) of an ill-fitting denture, may be single or multiple with one or several broad bases. They usually arise in the vestibular &

lingual sulci, but can involve the inner surfaces of the lips, check, & the palate along the posterior edge of an upper denture.

Clinically:

The lesion is usually firm in consistency, appear as nodules or polypoid projection.

Sometimes may be ulcerated at the area into which the flang of the denture fit.

Histopathology:

1- epithelium: may show hyperkeratosis, acanthosis, elongation of rete ridges, & ulceration.

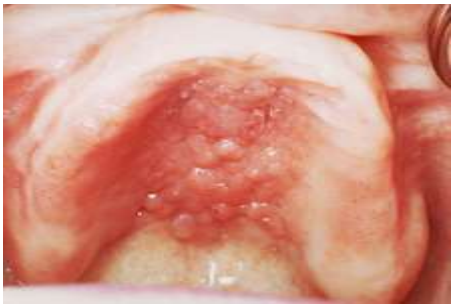
2- C.T., bulk of mature fibrous tissue with hypocellular scar like pattern. & sometimes show inflammatory cells beneath the ulcerative area.

## *5- Papillary hyperplasia of the palate*

The etiology is not fully understood, but minor trauma relates to rocking & rotation of ill-fitting denture, with poor denture hygiene are most factors. The patient may give a history of sleeping with dentures, & often there is a chronic candidiasis.

Clinically:

Appears as numerous, small, tightly packed papillary projections over part or all of the denture bearing area which give the hard palate a pebbled appearance.



Histopathology:

1- epithelium: shows numerous papillary projections, the stratified sq. epith is hyperplastic & in some cases the unwary pathologist may mistake it as a sq.c.c., this appearance referred to as pseudo-epitheliomatous hyperplasia & is characterized by irregular proliferation & branching of the rete ridges which extend for considerable distances into the underlying C.T., suggestion invasion keratin pearl, but there are no atypical cytological features.

2- C.T., is chronically inflamed granulation & fibrous tissue.

## *Malignant connective tissue tumor*

### 1- FIBROSARCOMA

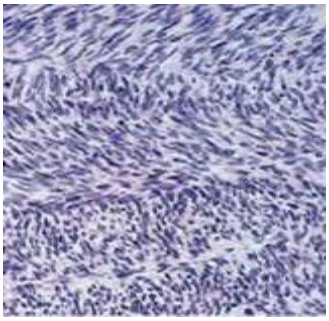
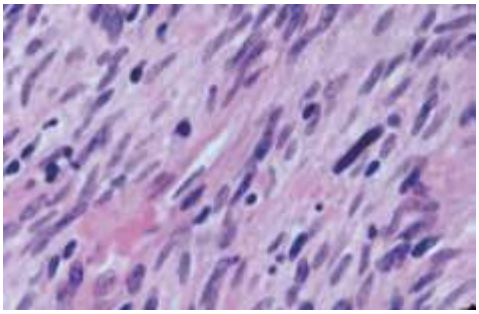
Is a malignant tumor of fibroblasts. At one time, it was considered one of the most common soft tissue sarcomas. However, the diagnosis of fibrosarcoma is made much less frequently today because of the recognition and separate classification of other spindle cell lesions that have similar microscopic features. The tumor is most common in the extremities; only 10% occur in the head and neck region.

Clinically

Fibrosarcomas most often present as slow-growing masses that may reach considerable size before they produce pain. They can occur anywhere in the head and neck region. A number of cases have been reported in the nose and paranasal sinuses, where they often result in obstructive symptoms. They can occur at any age but are most common in young adults and children.

Histopathologically

Well-differentiated fibrosarcomas consist of fascicles of spindle-shaped cells that classically form a "herringbone" pattern. The cells often show little variation in size and shape, although variable numbers of mitotic figures can usually be identified. In poorly differentiated tumors, the cells are less organized and may appear rounder or ovoid. Mild pleomorphism along with more frequent mitotic activity may be seen. Poorly differentiated tumors tend to produce less collagen than do well-differentiated tumors.

Treatment and prognosis

The treatment of choice is usually surgical excision, including a wide margin of adjacent normal tissue. Recurrence is noted in about half of cases, and 5-year survival rates range from 40% to 70%.

## 2- MALIGNANT FIBROUS HISTIOCYTOMA

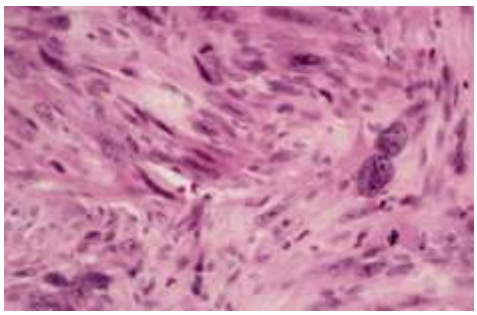
Is considered to be a sarcoma with both fibroblastic and histiocytic features. After the introduction of this term in 1963, this tumor concept rapidly gained acceptance and became the most common soft tissue sarcoma diagnosed in adults.

Clinically

Is primarily considered to be a tumor of older age groups. The most common complaint is an expanding mass that may or may not be painful or ulcerated. Tumors of the nasal cavity and paranasal sinuses produce obstructive symptoms.

Histopathologically

Several histopathologic subtypes have been described. The storiform-pleomorphic type is the most common. This pattern is characterized by short fascicles of plump spindle cells arranged in a storiform pattern, admixed with areas of pleomorphic giant cells. Myxoid, giant cell, inflammatory, and angiomatoid subtypes also have been recognized.



Treatment and prognosis

The malignant fibroushistiocytoma is considered to be an aggressive tumor that is usually treated by radical surgical resection. Approximately 40% of patients have had local recurrences.

**3- Liposarcoma**

Is a malignant neoplasm of fatty origin. It currently is considered to be the most common soft tissue sarcoma and accounts for 20% of all soft tissue malignancies in adults. The most common sites are the thigh, retroperitoneum, and inguinal region. Liposarcomas of the head and neck are rare.

Clinically

Are primarily seen in adults, with peak prevalence between the ages of 40 and 60. The tumor is typically a soft, slow-growing, ill-defined mass that may appear normal in color or yellow. Pain or tenderness is uncommon; when present, it is usually a late feature. The neck is the most common site for Liposarcomas of the head and neck region. The most frequent oral locations are the tongue and cheek.

Histopathologically

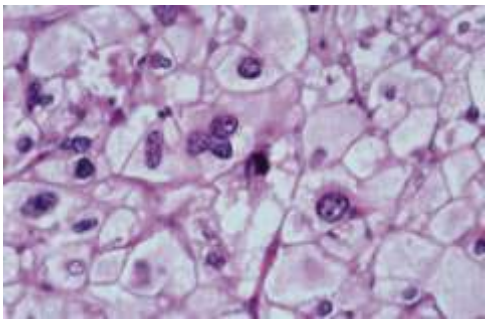
Most liposarcomas can be divided into three major categories:

1. Well-differentiated liposarcoma/atypical lipomatous tumor

2. Myxoid/round cell liposarcoma

3. Pleomorphic liposarcoma

The most common of these variants in the oral cavity is the well-differentiated liposarcoma, which accounts for 55% to 90% of all cases. These tumors resemble benign lipomas but demonstrate scattered lipoblasts and atypical, hyperchromatic stromal cells



Myxoid liposarcomas demonstrate proliferating lipoblasts within a myxoid stroma that contains a rich capillary network. The round cell liposarcoma is a more aggressive form of myxoid liposarcoma with less differentiated, rounded cells. Pleomorphic liposarcomas exhibit extreme cellular pleomorphism and bizarre giant cells. Dedifferentiated liposarcomas are characterized by the combination of well-differentiated liposarcoma with poorly differentiated, nonlipogenic sarcomatous changes. These features may coexist in the same neoplasm, or the dedifferentiated changes may develop in a recurrent tumor or metastasis.

Treatment and prognosis

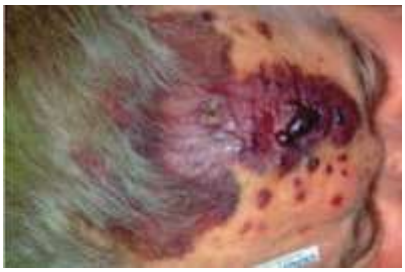
Radical excision is the treatment of choice for most liposarcomas throughout the body. In spite of this, around 50% of all tumors recur.

## 4- ANGIOSARCOMA

Is a rare malignancy of vascular endothelium, which may arise from either blood or lymphatic vessels. More than 50% of all cases occur in the head and neck region, with the scalp and forehead being the most common sites. Oral lesions are quite rare.

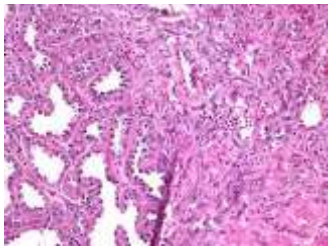
Clinically

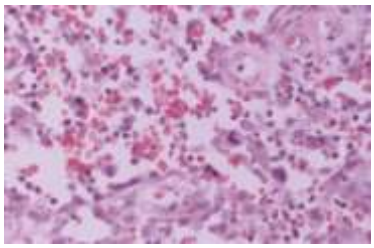
Cutaneous angiosarcomas of the head and neck are most common in older adult patients. Early lesions often resemble a simple bruise, which may lead to a delay in diagnosis. However, the lesion continues to enlarge, which results in an elevated, nodular, or ulcerated surface. Many examples appear. Oral angiosarcomas have been reported in various locations; the tongue and mandible are two of the more common sites.



Histopathologically

Is characterized by an infiltrative proliferation of endothelium-lined blood vessels that form an anastomosing network. The endothelial cells appear hyperchromatic and atypical; they often tend to pile up within the vascular lumina. Increased mitotic activity may be seen.





Treatment and prognosis

Treatment usually consists of radical surgical excision, radiation therapy, or both. The prognosis for angiosarcomas of the face and scalp is poor, however, angiosarcomas of the oral cavity and salivary glands appear to have a better outcome.