



Pseudotumoral, hyperplastic and potentially malignant lesions of the soft tissues of the oral cavity.

Pseudotumoral, hyperplastic and potentially malignant lesions of the soft tissues of the oral cavity.

Microspecimens:

№ OP 9. Pyogenic granuloma. (H-E stain.)

Indications:

1. Ulceration on the surface of the lesion.
2. Newly formed vessels, delimited by endothelial cells.
3. Inflammatory cells (neutrophils, lymphocytes, plasma cells).

Microscopically, the lesion consists of numerous newly formed blood vessels arranged in a lobular pattern, delimited by endothelial cells and which contain erythrocytes in the lumen. Numerous inflammatory cells (PMN, lymphocytes, plasma cells) are observed among the vessels. The lesion may be ulcerated on the surface.

Macroscopically, it has the appearance of a lobular mass, with a smooth surface, sessile or pedunculated of red color. The diameter of the lesion is from a few mm. till few cm. It is not painful, but can be associated with bleeding due to the fact that it is intensely vascularized. The most common location is in the gums, especially in the jaw region.

Pyogenic granuloma develops in response to local irritation or trauma. The lesion has no infectious cause and is not a true granuloma. It occurs mainly in females (possibly due to hormonal stimulation), in children and young adults. Surgical removal of the lesion is required to be followed by microscopic examination to exclude any suspicion of malignant lesion.

Pyogenic granuloma can produce local recurrences. A particular variant is granuloma that develops in pregnant women is called pregnancy tumor or granuloma gravidarum in connection with hormonal stimulation. After birth, this lesion may involve spontaneous or may develop fibrous maturation, transforming into a fibroma.

№ OP 10. Peripheral giant cell granuloma. (*H-E stain*).

Indications:

1. The superficial epithelium.
2. Blood vessels.
2. Multinucleated giant cells.

Microscopically, it consists of multinucleated giant cells as well as mesenchymal, fusiform or oval cells. Giant cells have large size, abundantly eosinophilic cytoplasm and numerous nuclei disposed centrally. Foci of hemorrhages and hemosiderin deposits occur among giant cells. Sometimes foci of calcification or ossification may develop. The microscopic appearance is similar to the central granuloma.

It appears exclusively at the level of the gum in the form of a nodular mass, with a diameter of 2 cm. It develops in adults and especially in females. The lesion is sessile or pedunculated, with or without ulceration of the overlying mucosa.

Peripheral giant cell granuloma is a frequent pseudotumoral lesion of the oral cavity, which develops as a result of irritation or local trauma (dental root remnants, large metallic or acrylic crowns, teeth tartar).

№ OP 38. Benign hyperplasia with hyperkeratosis. (H-E stain).

Indications:

1. Superficial epithelium with acanthosis and hyperkeratosis.
2. Intact basement membrane.
3. The subepithelial layer.

Microscopically, it is characterized by thickening of the epithelium, flat or papillary in appearance, as a result of acanthosis (thickening of the stratum spinosum) and hyperkeratosis (thickening of the stratum corneum). The basement membrane is intact, sometimes subepithelial inflammatory infiltrate is observed. If epithelial dysplasia is present (lack of nuclei polarity, pleomorphism and nuclear hyperchromasia, atypical mitosis), then in the histopathological report it is classified as: mild, moderate and severe (depending on the extent of cellular changes in the thickness of the epithelium). When the entire epithelial thickness is affected, the term carcinoma in situ is used.

Macroscopically, it appears in the form of whitish plaques, with a smooth or ulcerated surface, with regular margins, which may differ in size from 0.5 cm., located on the mucosa of the lower lip, tongue, jugal mucosa, up to extended lesions at almost on entire surface of the oral mucosa.

Benign hyperplasia with hyperkeratosis (clinical-leukoplakia) – is main precancerous lesion of the oral cavity, the malignant transformation being present in 5-6% of cases. It is defined as a white spot or plaque, not smaller than 5 mm. in diameter, which can not be removed by deletion and can not be classified in any other category of diagnosable lesions. It occurs more frequently in males and people over the age of 40 due to local irritants. These can be mechanical (dental root remnants, untreated tooth decay, sharp edges of fixed or mobilizable dental prosthesis), electrical (produced by the presence of two or more different metals, used in dental prosthesis), thermal, chemical, inflammatory, alcoholism, smoking, metabolic, hormonal factors.

№ OP14. Low-grade dysplasia of the oral cavity epithelium. (*H-E stain*).

Indications:

1. Superficial epithelium with dysplasia (lack of nuclei polarity, pleomorphism and nuclear hyperchromasia).
2. Intact basement membrane.
3. The subepithelial layer.

Microscopically, the architectural features of dysplasia include: irregular epithelial stratification, loss of normal stratification and polarity, drop-shaped rete pegs. Mitosis in the middle and upper epithelium, keratinization in single cells (dyskeratosis), basal hyperplasia and anaplasia.

Dysplasia is a premalignant lesion that refers to an abnormal epithelial growth characterized by a spectrum of cytological, maturational and architectural changes (lack of nuclei polarity, pleomorphism and nuclear hyperchromasia, atypical mitosis). In situ carcinoma represents abnormal changes in the entire thickness of the epithelium, which extends from the basal cell layer to the surface, the basal membrane being intact. In the oral cavity: relationship of dysplasia with invasive carcinoma is less well defined; for moderate dysplasia, the malignant transformation potential is 4 - 11%; for severe dysplasia it is 20 - 35%. The terms mild, moderate and severe dysplasia are applied if architectural and cytologic atypia affect $< 1/3$, $1/3$ to $2/3$ and $> 2/3$ of epithelium respectively.

The most important extrinsic factors are smoking and alcohol, along with syphilis, oncogenic viruses (HSV). Intrinsic factors include systemic conditions such as malnutrition and iron deficiency anemia.

№ OP45. Chronic hyperplastic candidiasis. (*H-E stain*).

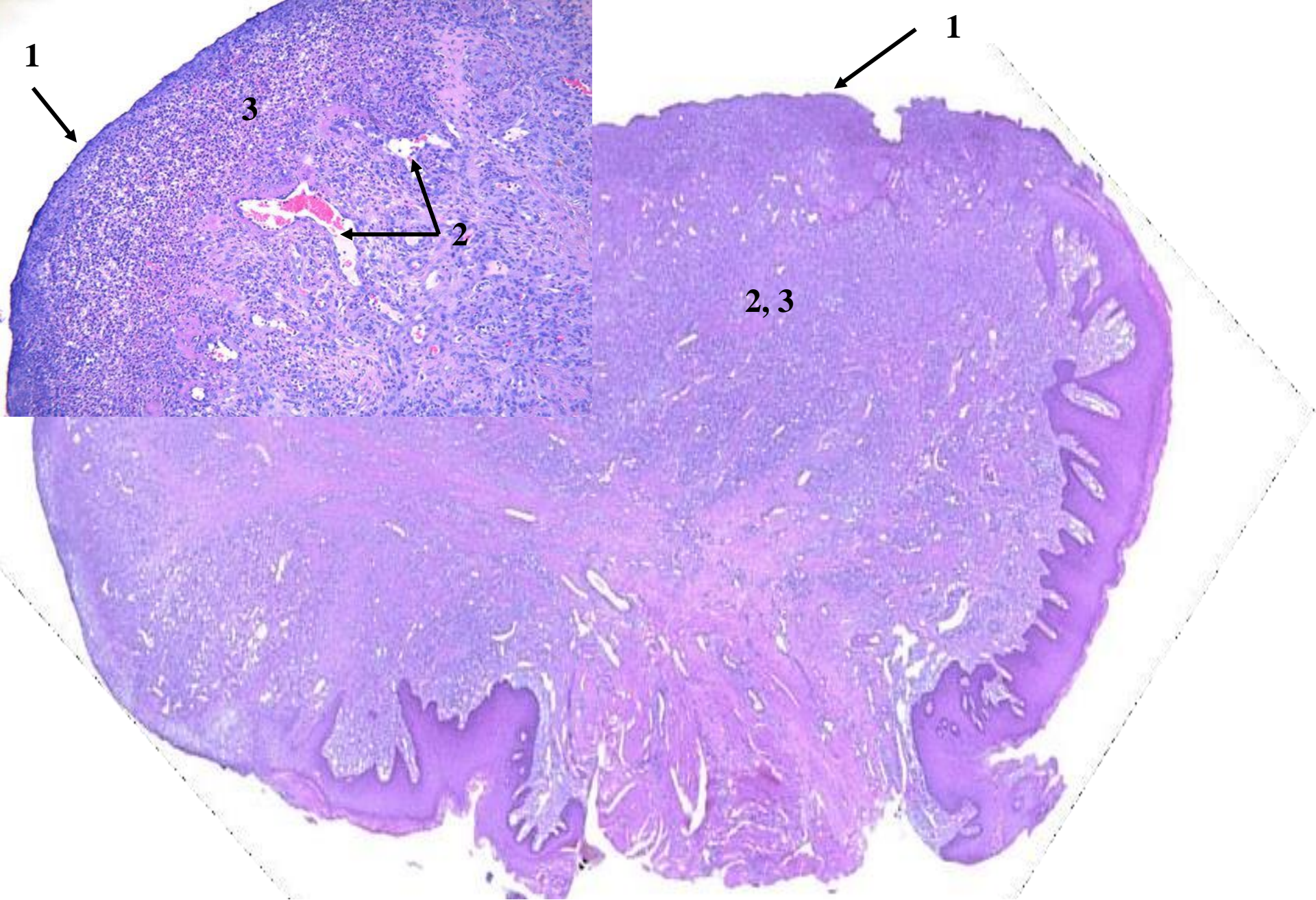
Indications:

1. Hyperplastic superficial epithelium with neutrophilic infiltration.
2. Pronounced inflammatory infiltrate along lamina propria of epithelium.

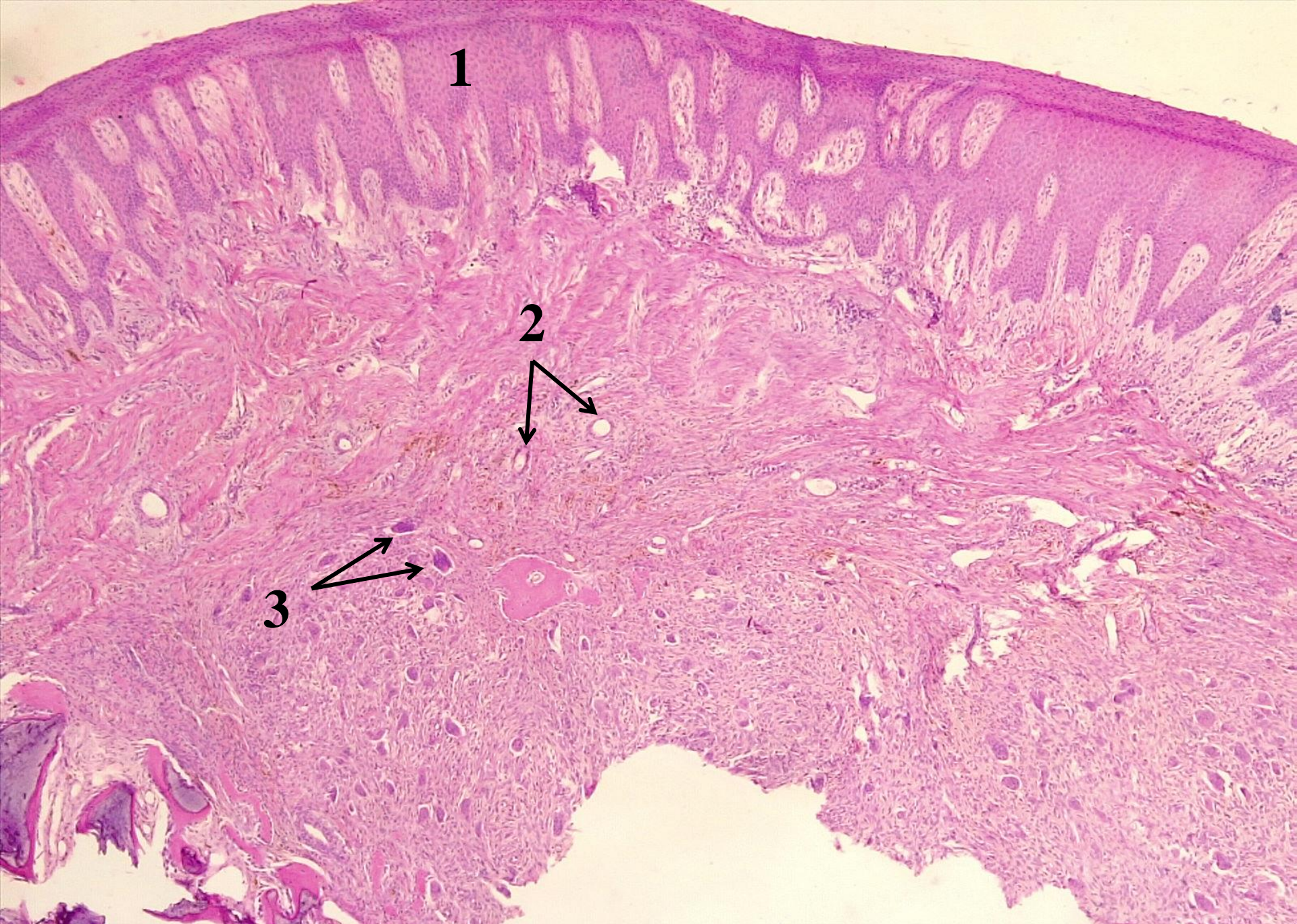
Microscopically, the hyperplastic superficial epithelium with neutrophilic infiltration and the presence of hyphae that are PAS (periodic schiff acid) positive are observed. Pronounced inflammatory infiltration along lamina propria of epithelium.

Macroscopically, it is characterized by the presence of superficial curdy, gray-white membranes that easily wipe off (*pseudomembranous candidiasis*) or painful erosions (*erythematous candidiasis*).

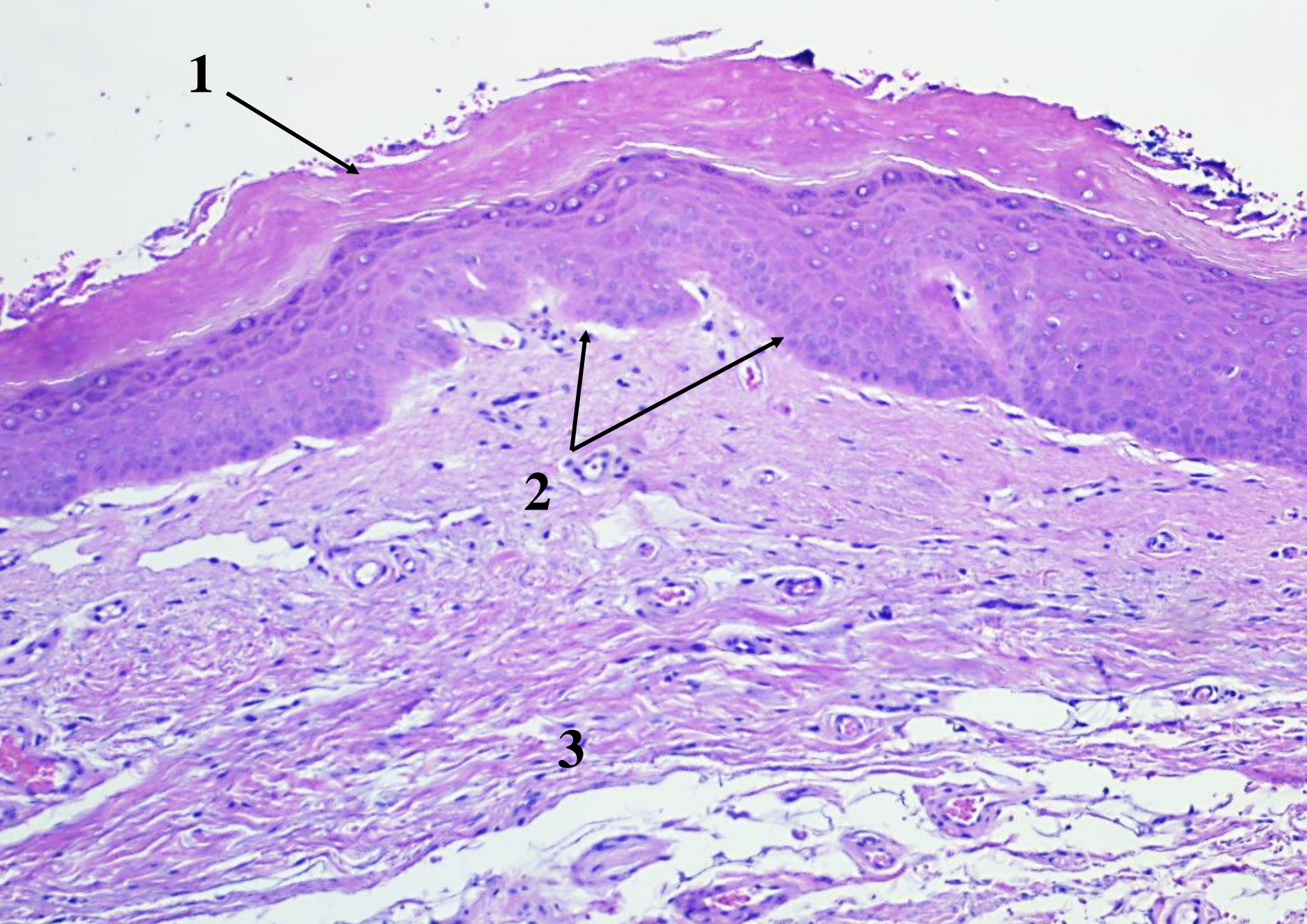
It is caused by the excessive multiplication of Candida Albicans in patients with immunosuppression, especially in HIV (AIDS), diabetes, neutropenia, xerostomia. HIV-positive men over the age of 45 suffer more frequently.



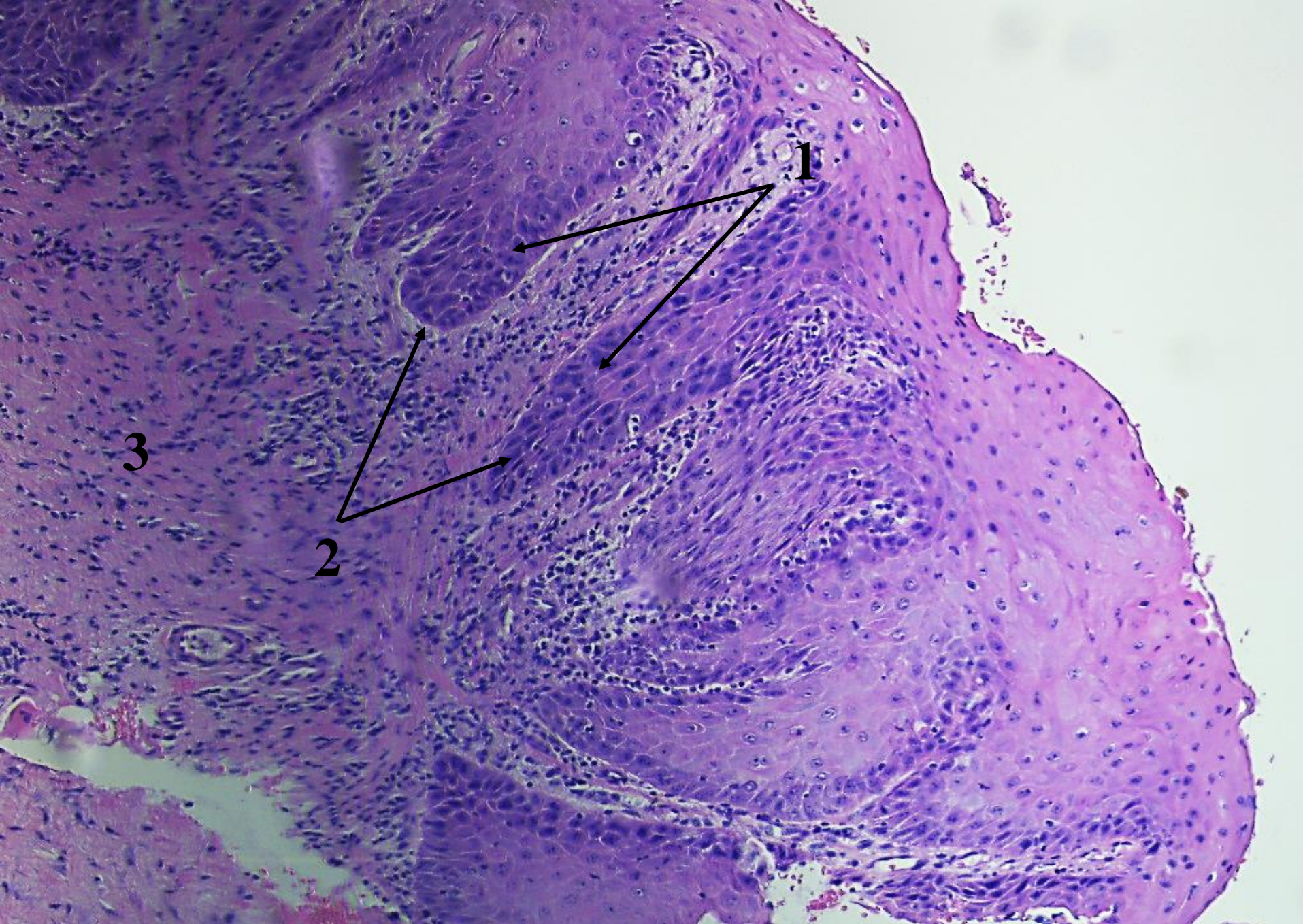
№ OP 9. Pyogenic granuloma. (H-E stain.)



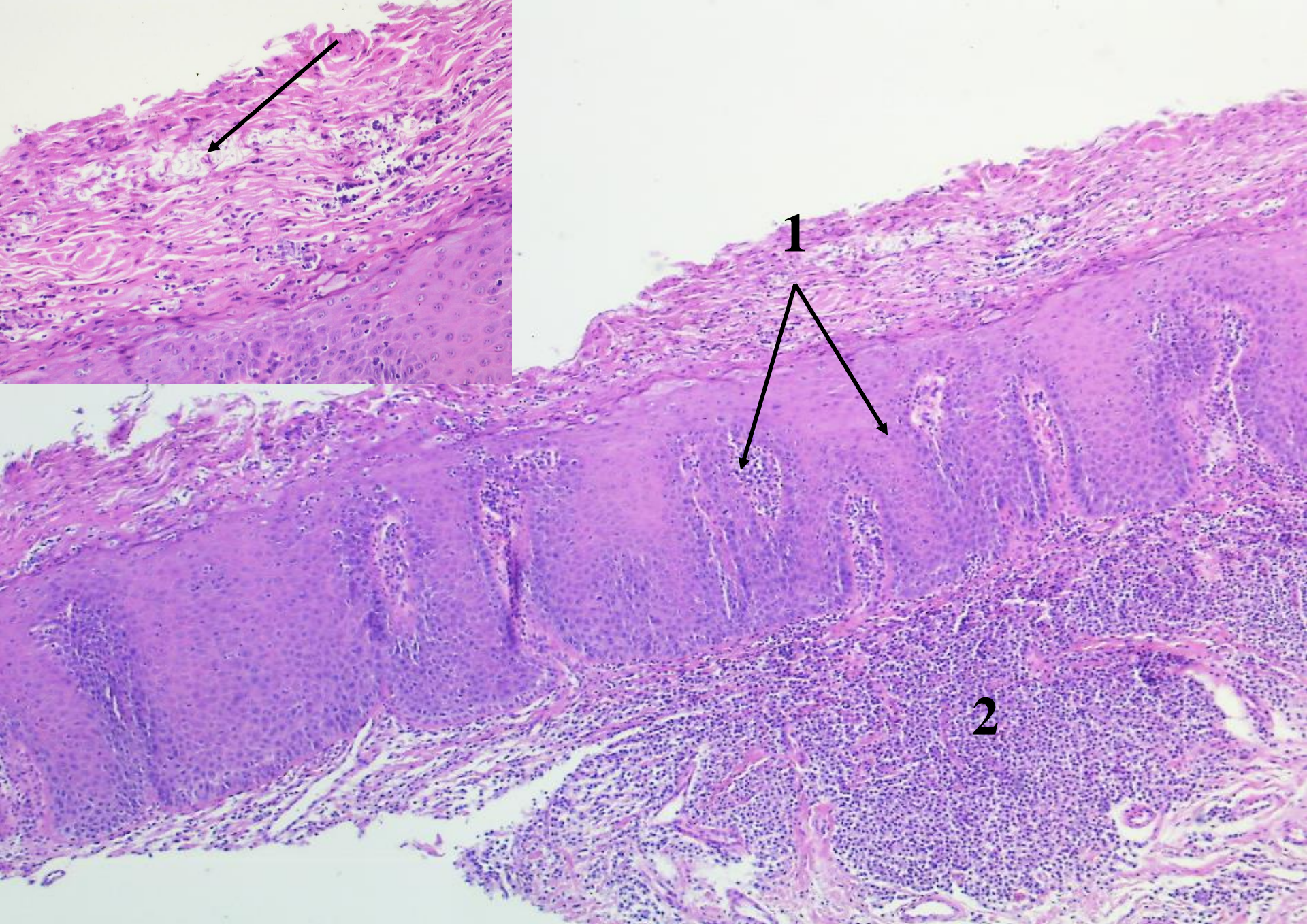
№ OP 10. Peripheral giant cell granuloma. (H-E stain).



№ OP 38. Benign hyperplasia with hyperkeratosis. (H-E stain).



№ OP14. Low-grade dysplasia of the oral cavity epithelium. (*H-E stain*).

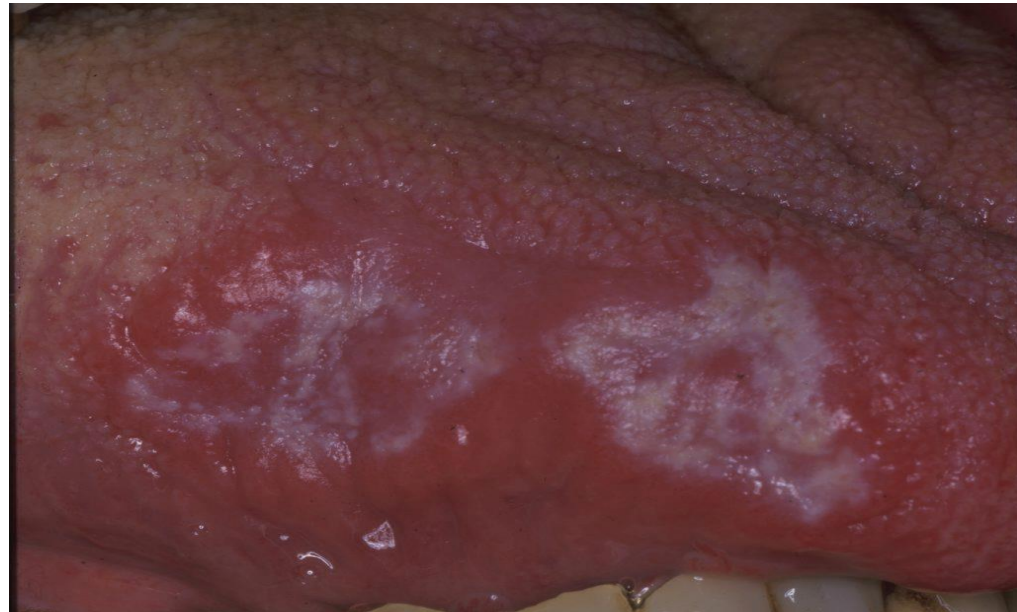


№ OP45. Chronic hyperplastic candidiasis. (H-E stain).

Potentially malignant disorders of the oral cavity

Leukoplakia - the main precancerous lesion of the oral cavity, the malignant transformation being present in 5-6% of cases.

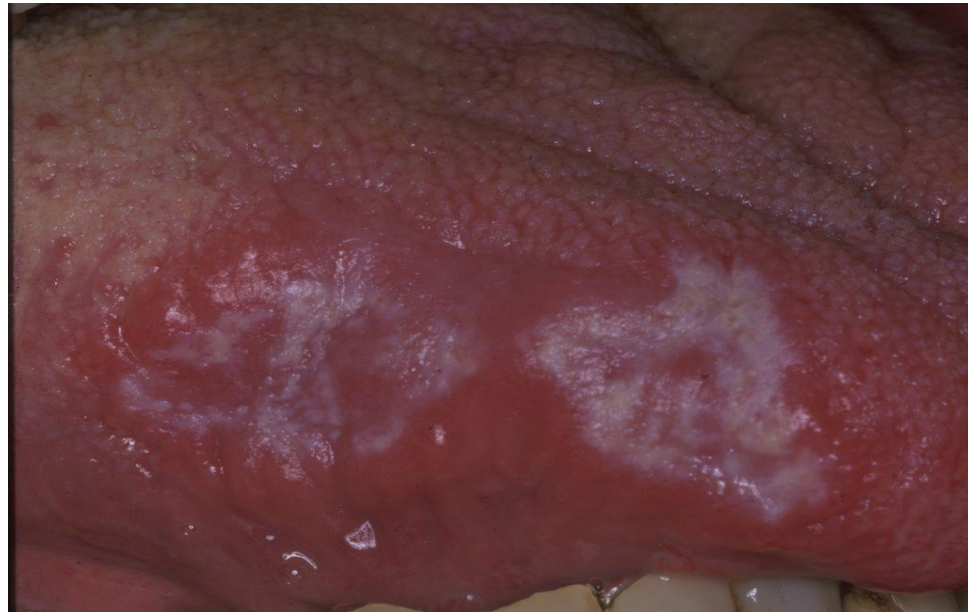
It is defined as a white spot or plaque, not smaller than 5 mm. in diameter, which cannot be removed by deletion.



Leukoplakia

It occurs more frequently in men and in people over 40 years of age due to local irritating factors, such as:

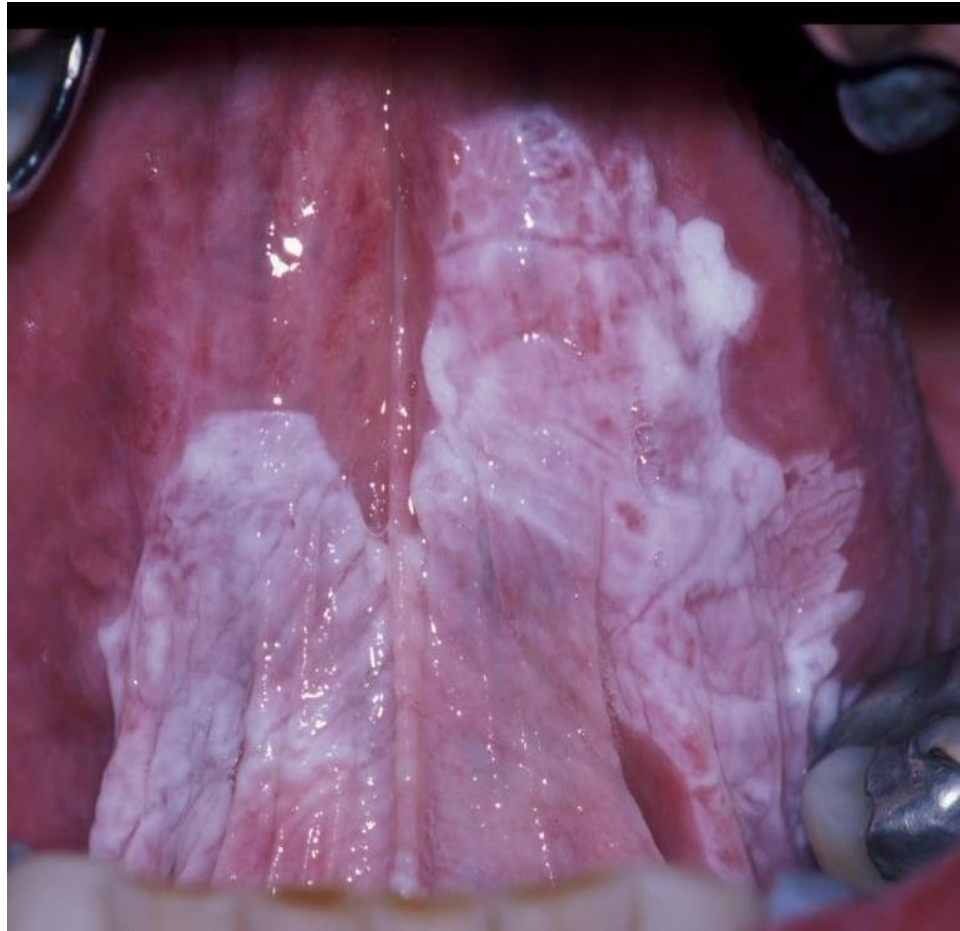
- dental root remnants
- untreated dental caries
- sharp edges of dental prosthesis
- thermal, chemical, inflammatory factors
- alcoholism
- smoking
- metabolic, hormonal factors



Leukoplakia

There are three forms described clinically:

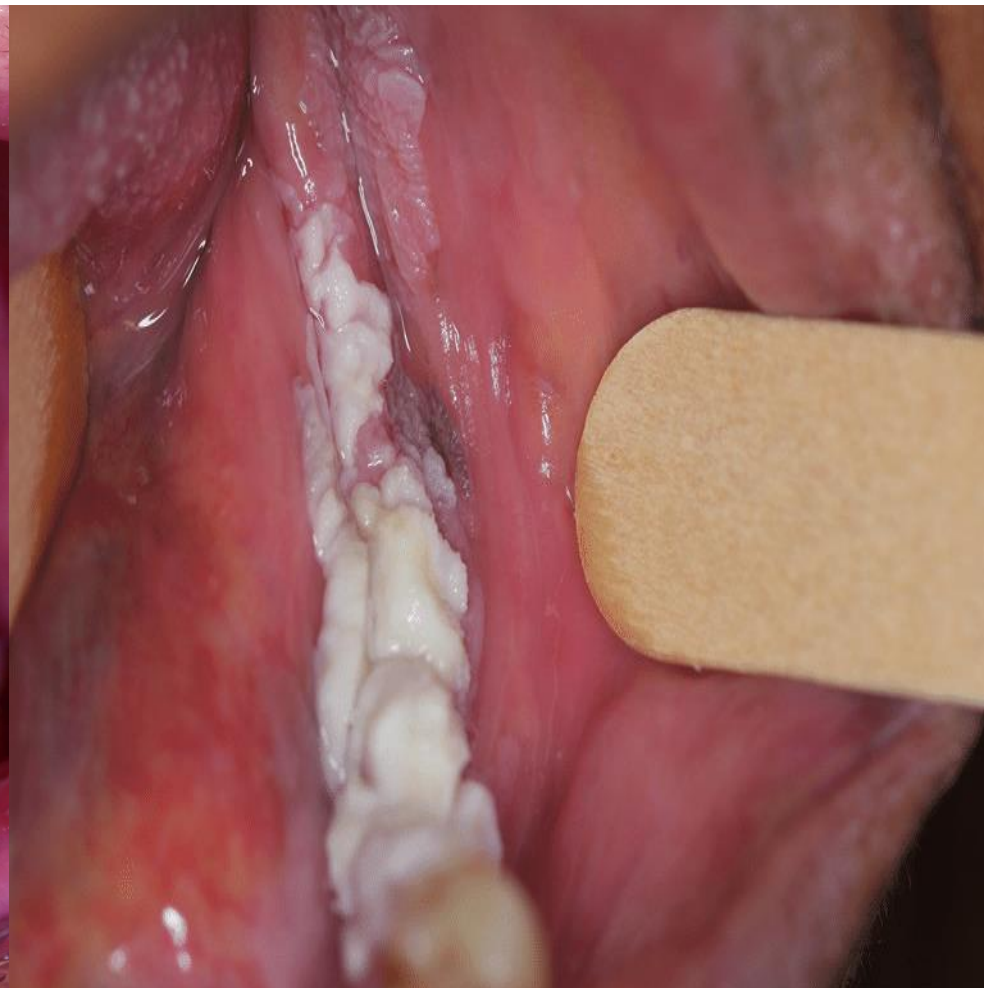
1. Leukoplakia simplex - keratinized mucosa of white-appearance



Leukoplakia

There are three forms described clinically:

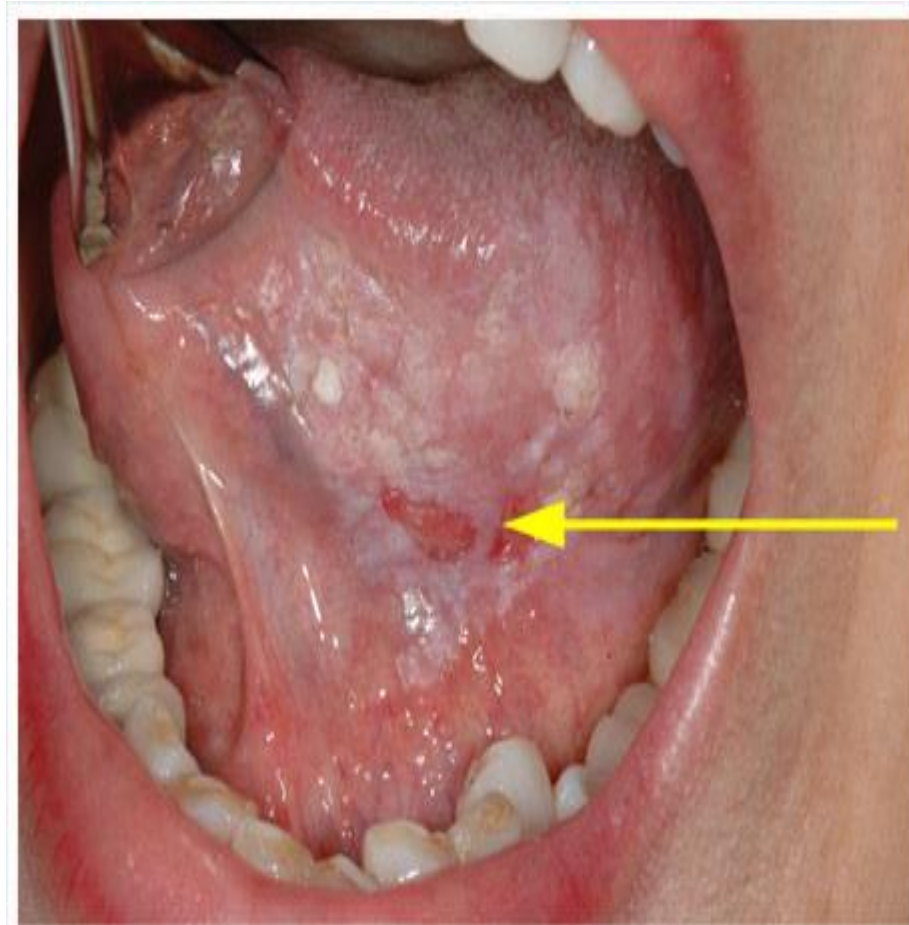
1. Verucous leukoplakia - verrucous proliferation of white appearance.



Leukoplakia

There are three forms described clinically:

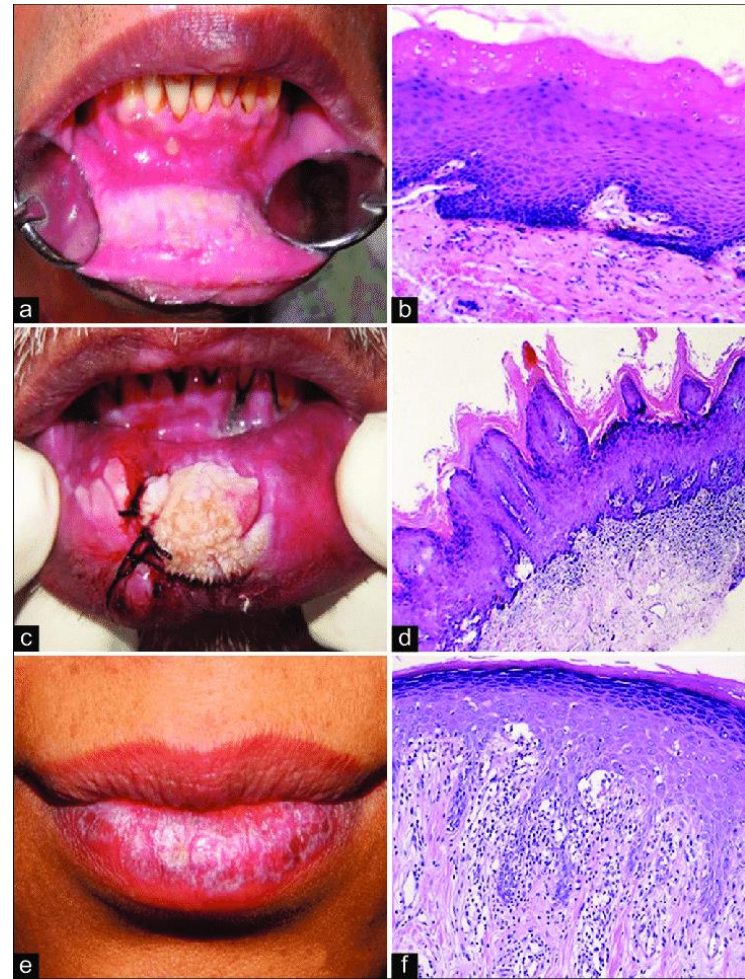
1. Speckled leukoplakia - lesions formed of white areas, alternating with erythematous areas or erosions.



Leukoplakia

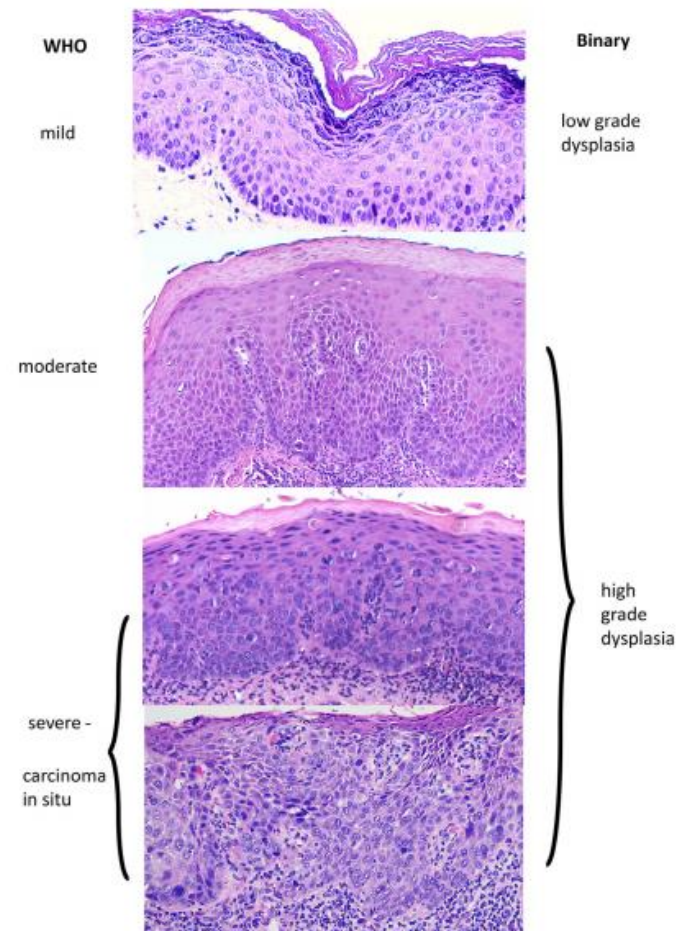
Microscopic is characterized by thickening of the epithelium of flat or papillary appearance, as a result of acanthosis (thickening of the stratum spinosum).

The basal membrane is intact,
Subepithelial, inflammatory infiltrate
is observed



Leukoplakia

Sometimes the dysplasia of the epithelium is associated, characterized by the lack of nuclei polarity, hyperchromasia, atypical mitoses.



Erythroplakia

It is a precancerous red lesion of unknown etiology, but whose favoring factors are similar to those that cause leukoplakia.

It is rarer than leukoplakia but can be associated with it.

It occurs more frequently in the elderly male, with localization on the tongue mucosa, soft palate and buccal floor.

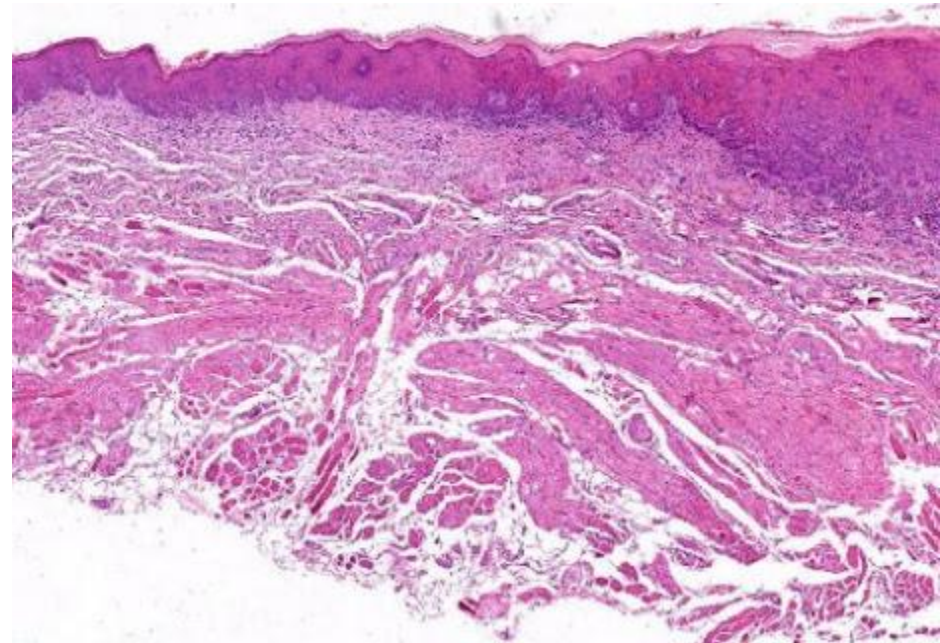


Erythroplakia

Macroscopically, it is a well-delimited lesion with the appearance of an erythematous macula or plaque, of soft consistency.

Microscopically the epithelium can be atrophic, being associated with different degrees of dysplasia.

The absence of keratinization, as well as the atrophy of the epithelium allow the underlying microvascularization to be highlighted, which explains the red color of the lesion, in subepithelial layer chronic inflammatory infiltrate is observed



Oral submucous fibrosis

It is a chronic, progressive lesion, which carries an increased risk of malignancy.

Favorable factors are: smoking, genetic predisposition, therapeutic irradiation, chemical and thermal insults.

It appears in people between the ages of 20-40 years.



Oral submucous fibrosis

Initially a burning sensation appears, followed by an inflammatory process, with formation at the level of the palate mucosa of the vesicles and ulcers

Later the mucosa becomes white, fibrous and rigid, caused by the fibroelastic hyperplasia of the connective tissue.

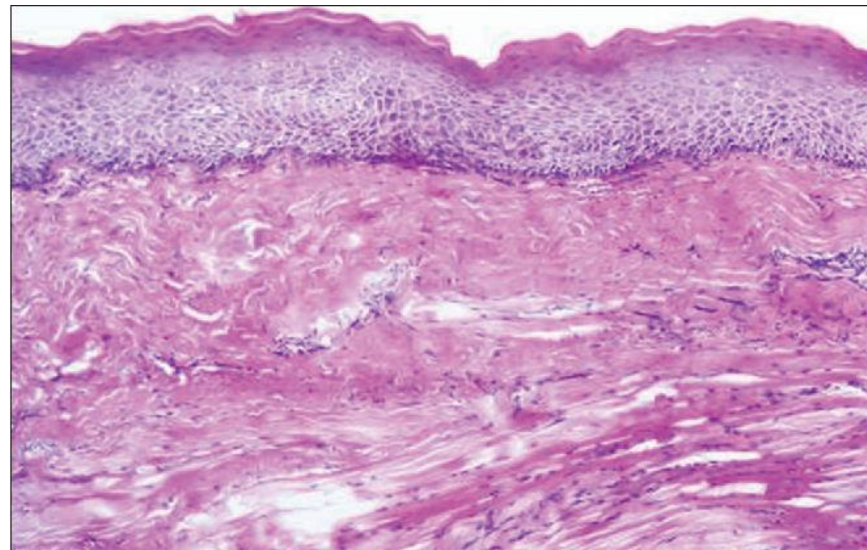


Oral submucous fibrosis

Sometimes the lesion spreads to the pharynx, fibrosis leads to contracting of the tissues, which prevents the opening of the oral cavity, chewing and swallowing.

Microscopically, collagen deposits are observed in the submucosal tissue, associated with chronic inflammatory infiltrate. The overlying epithelium may be with hyperkeratosis and sometimes dysplasia.

The potential of malignant transformation of lesion, is 20-30% of cases.



Actinic cheilitis

It is a precancerous lesion of the lower lip, which develops as a consequence of exposure to ultraviolet radiation.

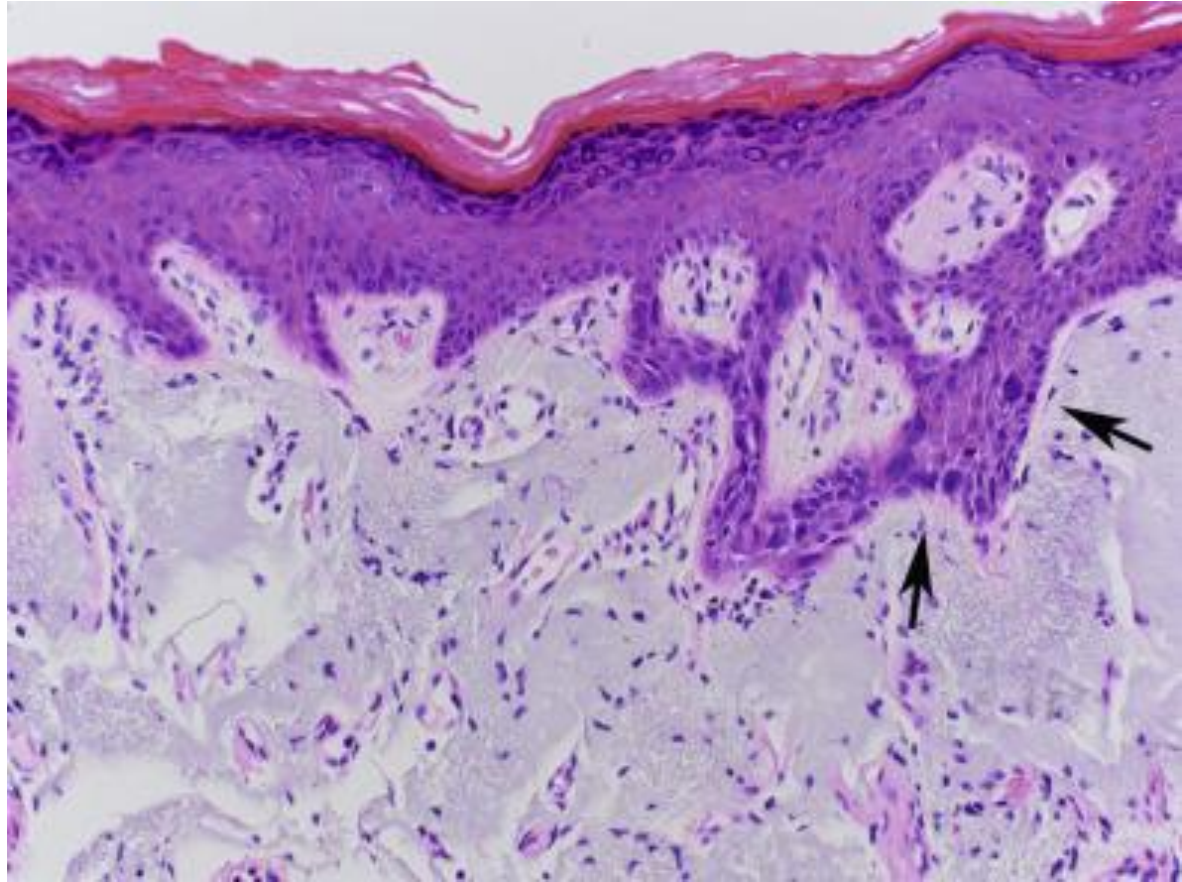
More often it is found in sailors and farmers, blond people with white skin.

Macroscopically, it is located at the level of the red lower lip, in the form of a smooth atrophy zone, as the lesion progresses it becomes harder and ulcerated.



Actinic cheilitis

Microscopically, the squamous epithelium is atrophic, characterized by hyperkeratosis, sometimes dysplasia, and in the underlying tissue there is a chronic inflammatory infiltrate, as well as amorphous, basophilic acellular masses called solar elastosis (representing alteration of collagen and elastic fibers).



Pseudotumoral and hyperplastic lesions

Pyogenic granuloma

Peripheral granuloma with giant cells

Inflammatory fibrous hyperplasia

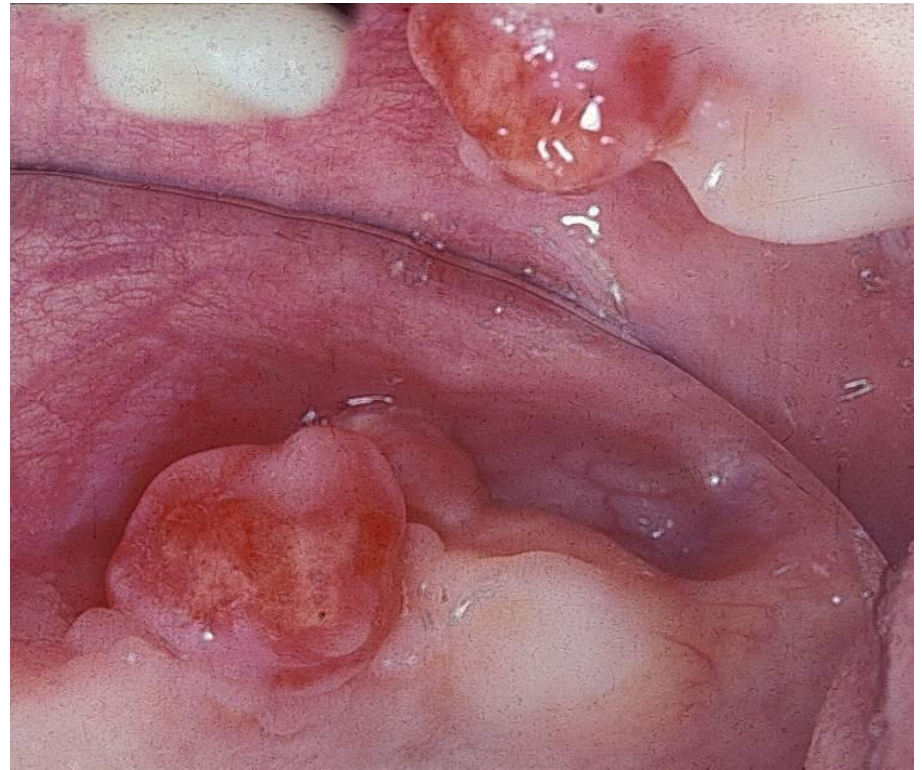
Focal epithelial hyperplasia

Amputation neurinoma

Pyogenic granuloma

It develops in response to a local irritation or trauma. The lesion does not have an infectious cause and is not a true granuloma.

It occurs mainly in the female sex (possibly due to hormonal stimulation), in children and young adults.



Pyogenic granuloma

Macroscopic. It has the appearance of a lobulated mass, with a smooth surface, sessile or pedunculated, of a red color. The diameter of the lesion is several mm. up to a few cm.

It is not painful, but may be associated with bleeding due to its intense vascularization.

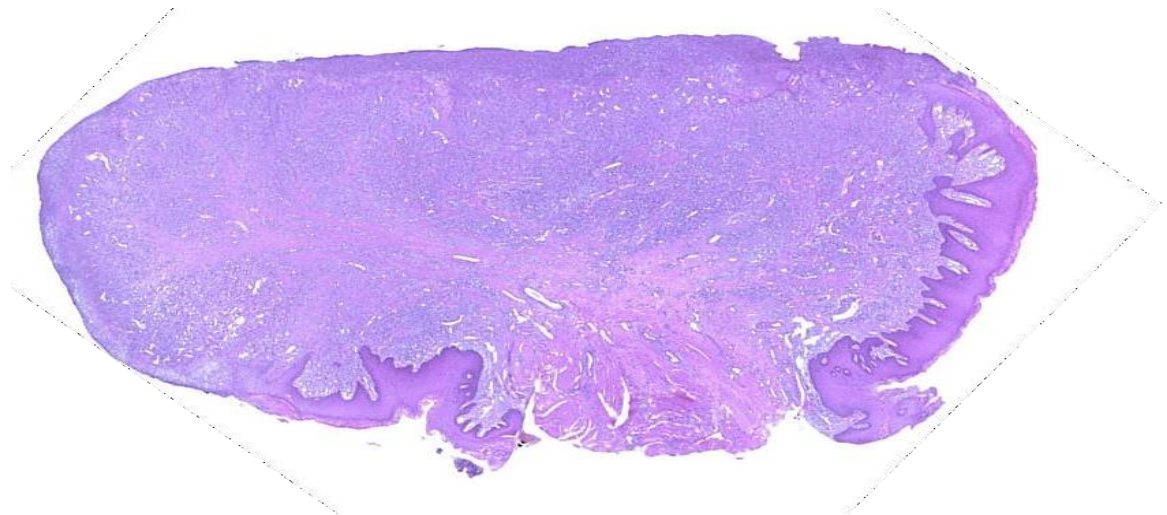
The most common localization in the gum, at the maxillary region.



Pyogenic granuloma

Microscopically, it consists of numerous new formed vessels, delimited by endothelial cells, which contain erythrocytes in the lumen, among which are numerous inflammatory cells (neutrophil granulocytes, lymphocytes, plasmocytes). Injury can be ulcerated on the surface.

Surgical removal of the lesion is required to be followed by microscopic examination to exclude any suspicion of malignant lesion.

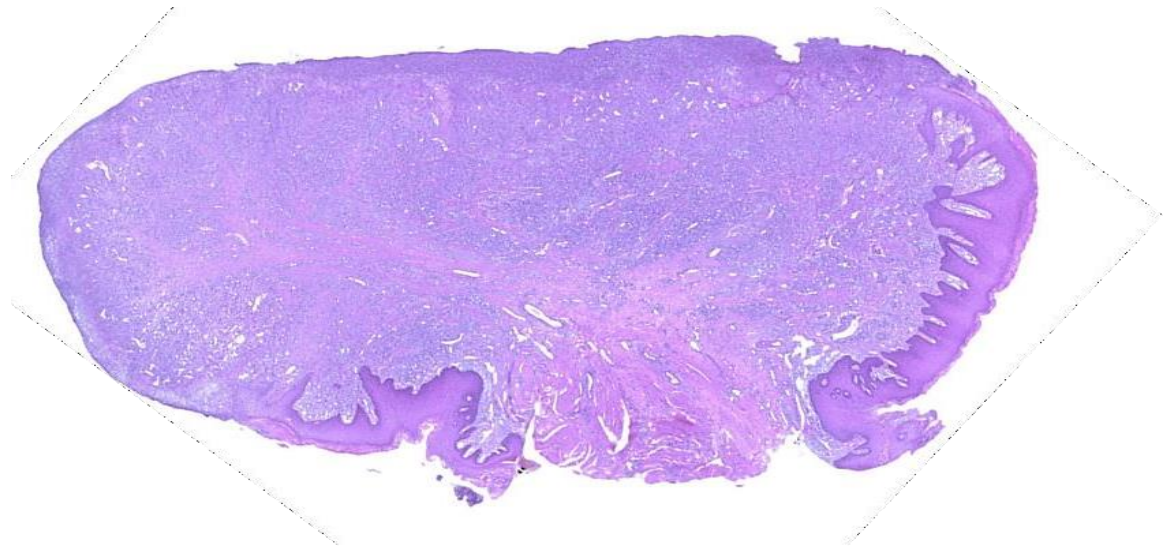


Pyogenic granuloma

May produce local recurrences.

A particular variant is the granuloma that develops in pregnant women and is called pregnancy tumor or granuloma gravidarum in connection with hormonal stimulation.

After birth, this lesion may regress spontaneously or may develop a fibrous maturation, transforming into a fibroma.



Peripheral giant cell granuloma

It appears exclusively in the gum in the form of a nodular mass, with a diameter of 2 cm. It develops in adults and especially in females.

The lesion is sessile or pedunculated, with or without ulceration of the overlying mucosa.



Peripheral giant cell granuloma

Similar to the pyogenic granuloma, which displaces the teeth and can erode the alveolar bone.

It comes from the periodontal ligament



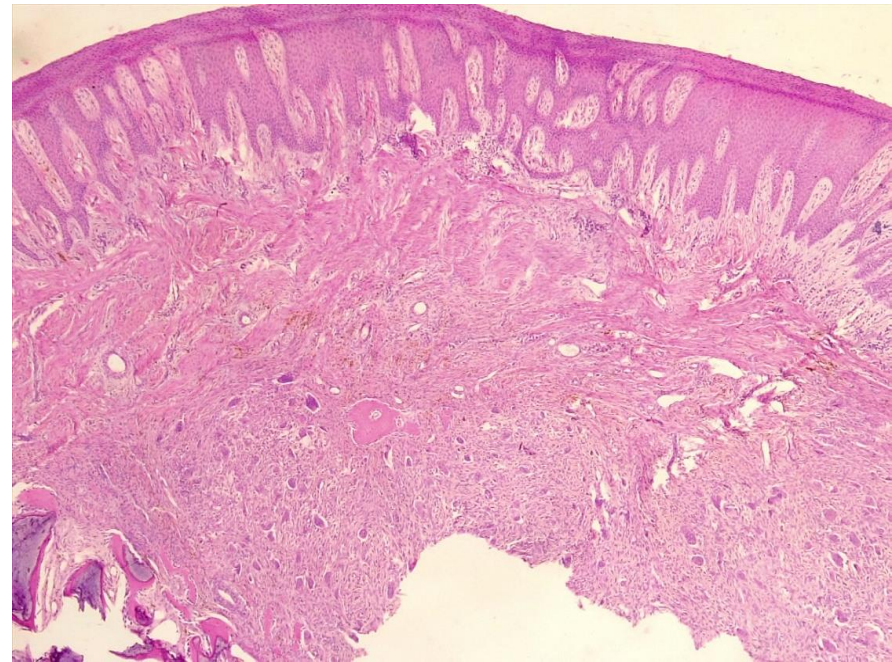
Peripheral giant cell granuloma

Microscopically, it consists of multinucleated giant cells as well as mesenchymal, fusiform or oval cells. Giant cells have large size, abundantly eosinophilic cytoplasm and numerous centrally disposed nuclei. Foci of hemorrhages and hemosiderin deposits appear among the giant cells.

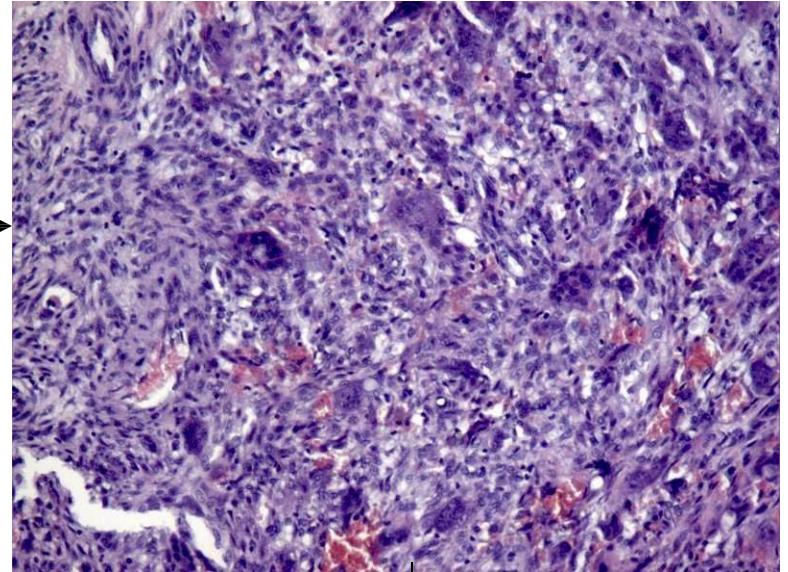
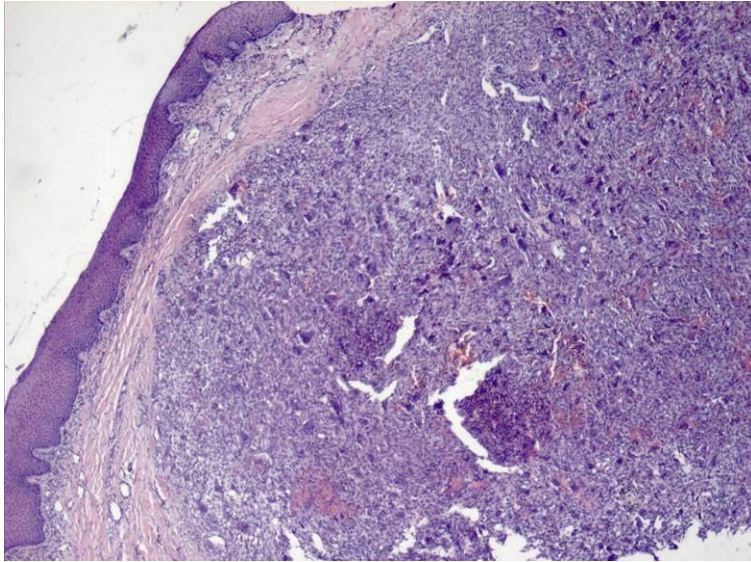
Sometimes calcification or ossification foci may occur.

The microscopic appearance is similar to the central giant-cell granuloma.

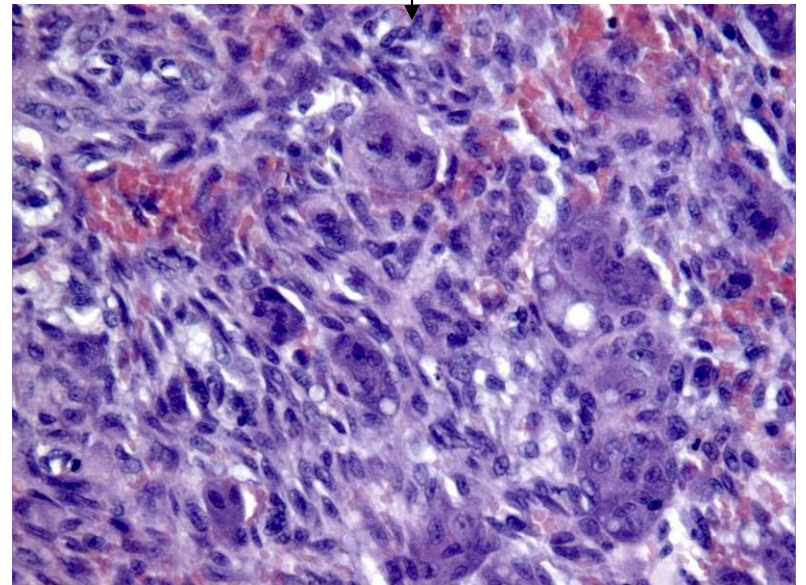
The lesion must be excised entirely because it can produce local recurrences, and the irritating factor removed



Peripheral giant cell granuloma



Multinucleated giant cells
in a well-vascularized stroma

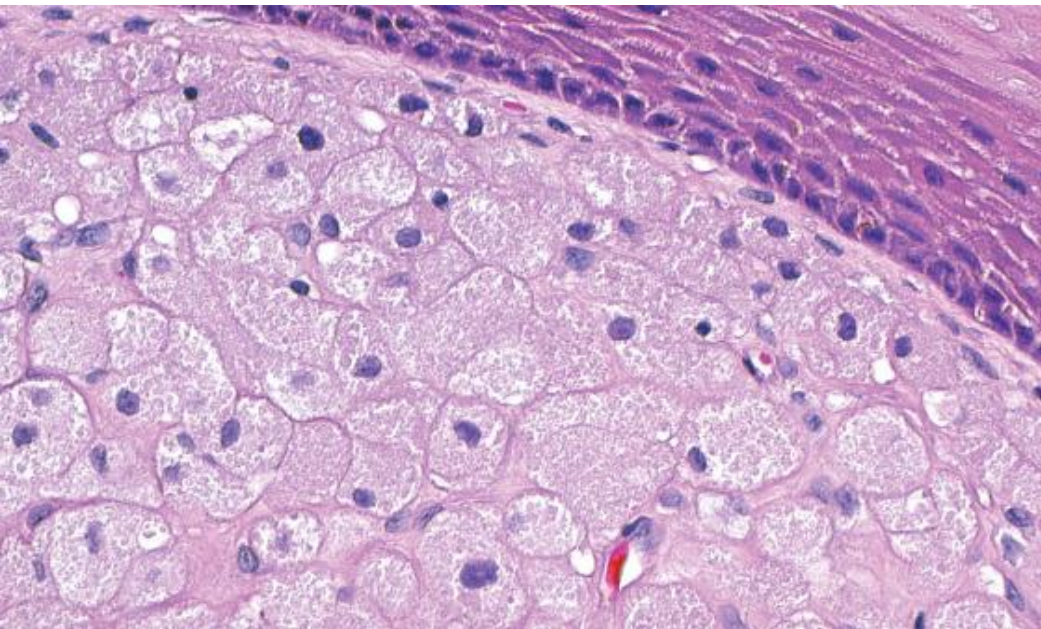


Congenital epulis

It represents a rare lesion of unknown etiology, which appears at birth on alveolar pre-ridges, microscopically similar to the granular cell tumor.

Microscopically - represents a spherical formation of soft consistency, and size of a pea.

Macroscopically - consists of large, clear cells with granular cytoplasm, of round or oval shape, rich in vessels and nerves.



Inflammatory fibrous hyperplasia

It is located on the vestibular slopes of the alveolar ridges edentulous to the carriers of mobilizable prostheses, due to the irritation caused by the lack of stability of some old or incorrectly executed prostheses.



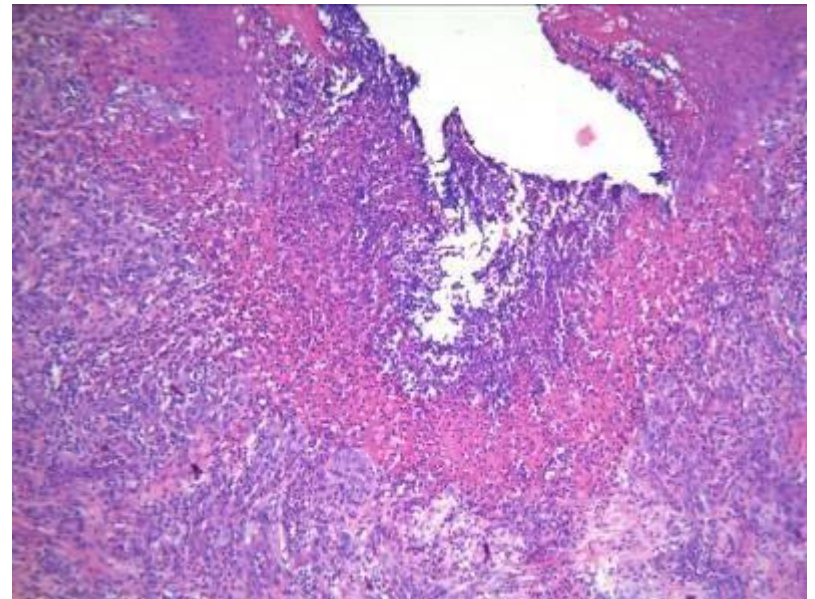
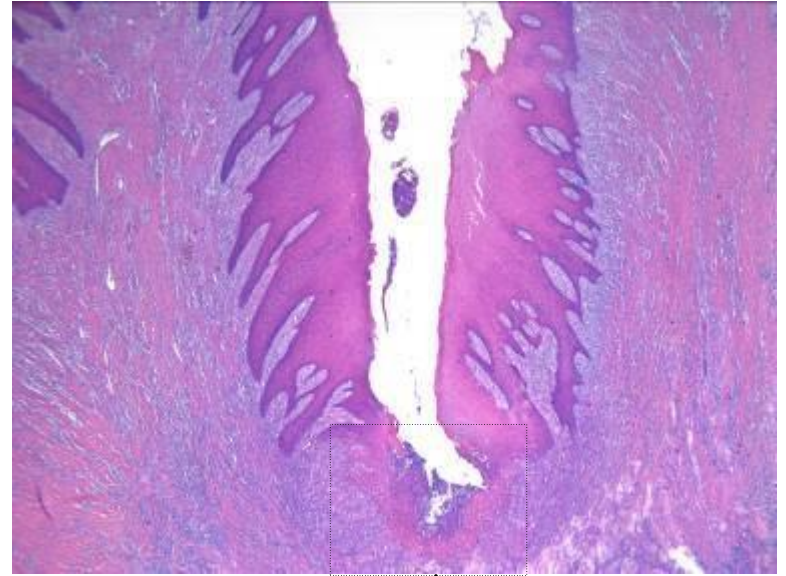
Inflammatory fibrous hyperplasia

The mucosa is thickened, with single or multiple lesions resembling an "open book".

Microscopically, abundant connective tissue is observed, covered with hyperplastic sometimes ulcerated epithelium.



Inflammatory fibrous hyperplasia



Keratinized squamous epithelium,
subepithelial dense fibrous connective tissue,
chronic inflammatory infiltration

Focal epithelial hyperplasia

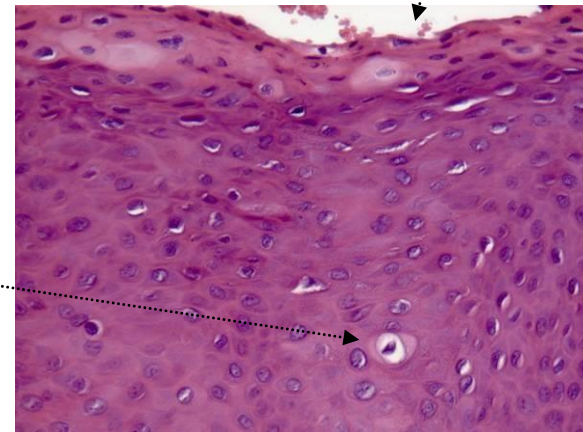
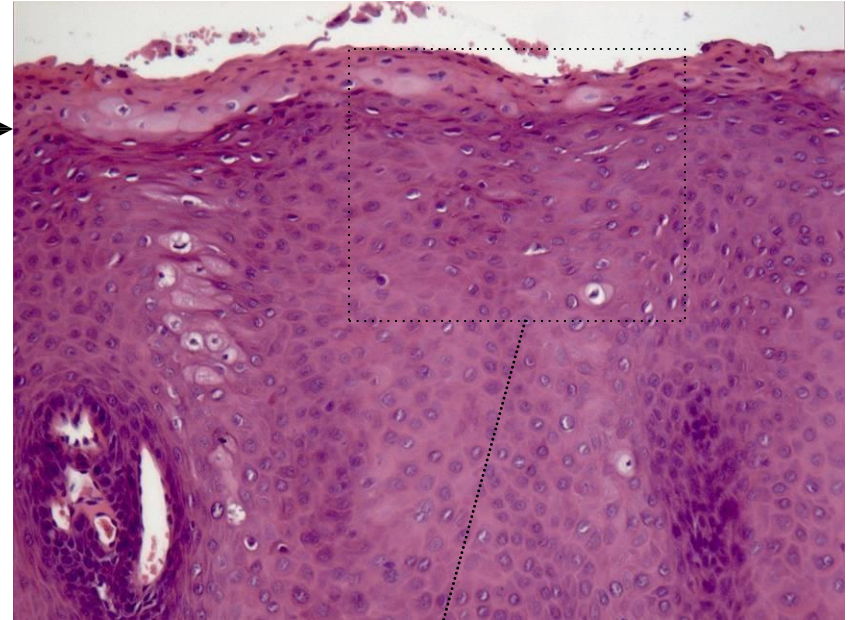
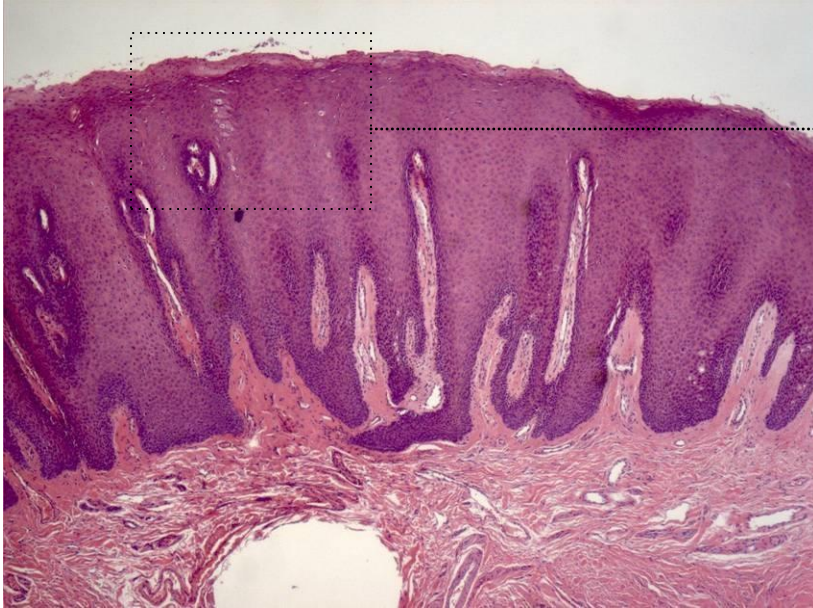
Risk factors for this condition include hygiene, poverty and community lifestyle. Extensive lesions have been reported in association with HIV / AIDS infection.

It is most commonly observed in children and young adults.

There is no gender difference



Focal epithelial hyperplasia

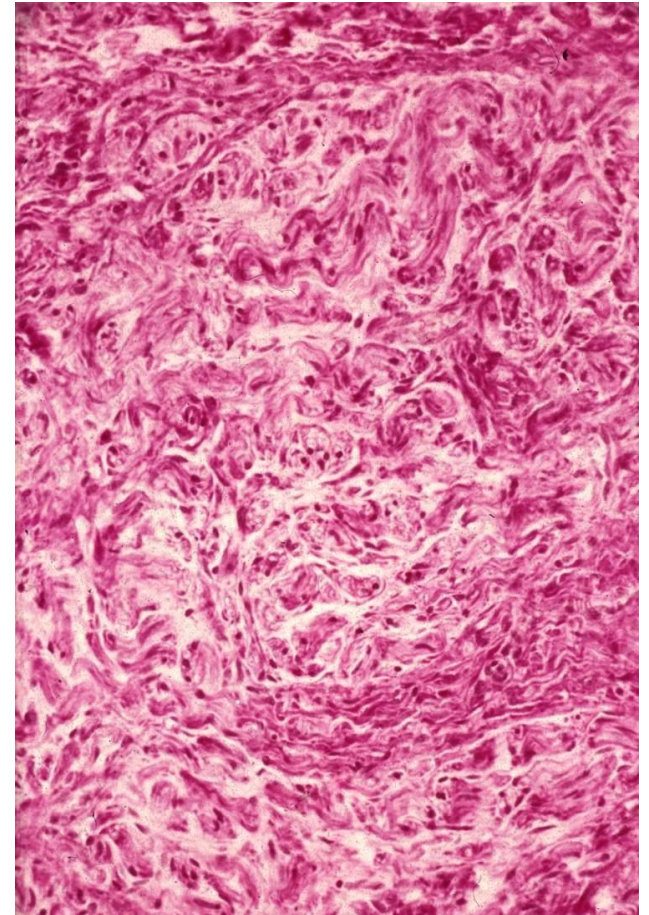


Branched and anastomosed
rete ridges

Vacuolized epithelial cells
- koilocytes (infected by virus)

Amputation neurinoma - traumatic neurinoma

- The firm nodule that is occasional painful on palpation
- Proliferation of a nerve that occurs in response to trauma or surgery.
- Location: lips, tongue,
- Treatment procedures



Unorganized proliferation of nerve tissue