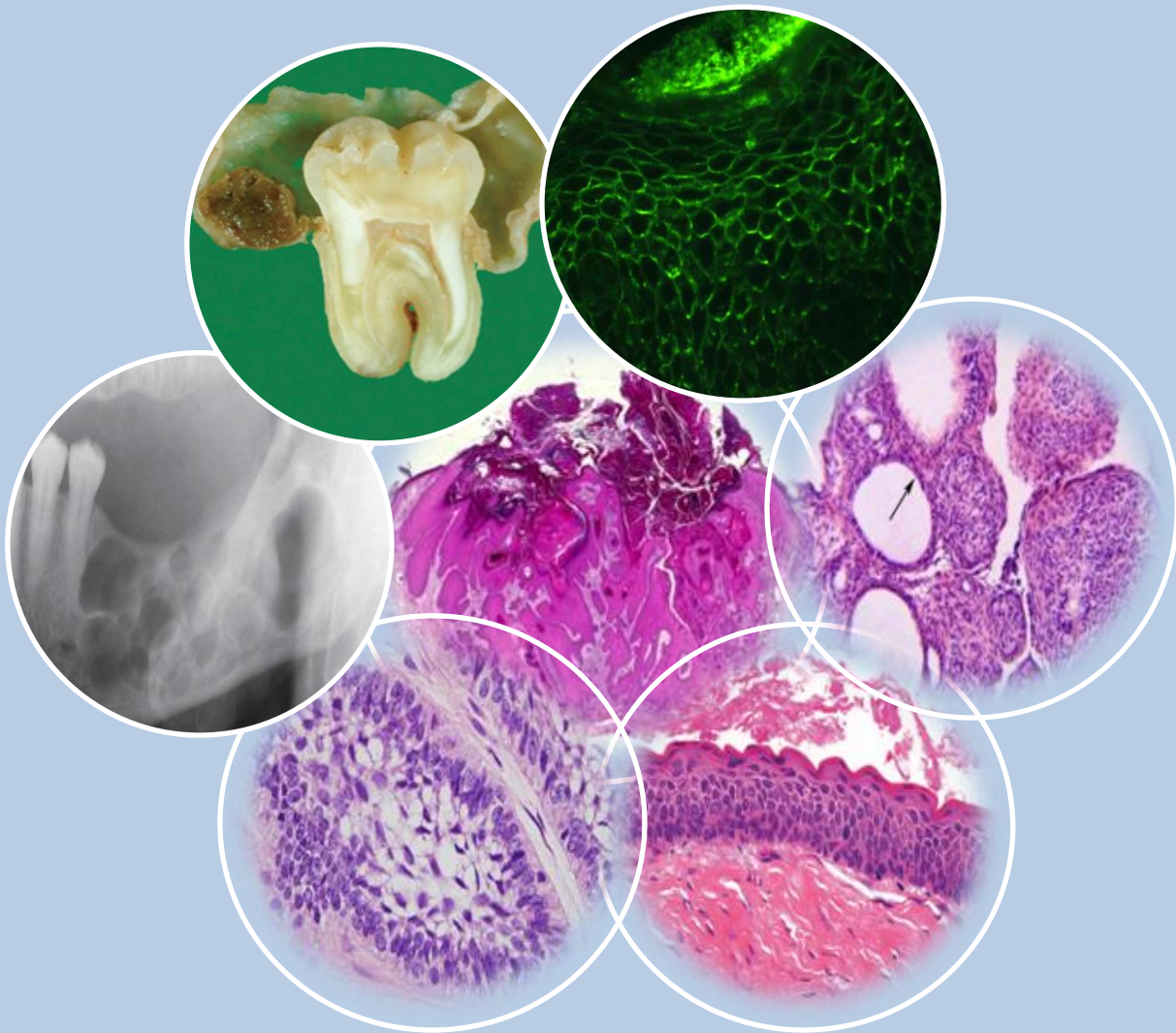


ORAL PATHOLOGY PRACTICAL NOTEBOOK

FOURTH EDITION



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PSOMP

ORAL PATHOLOGY PRACTICAL NOTEBOOK

**FOR
THIRD YEAR BDS**

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Section 1

Microscope

Section 1: Microscope

Contents:

- Introduction
- Various types
- Functioning of a microscope
- Tasks for students

Learning outcomes:

At the end of this section, students will be able to;

- Briefly describe about functions of microscope
- Enumerate various types of microscope
- Label different parts of it

Introduction

Since its invention, the microscope has been a valuable tool in the development of scientific theory. Magnifying lenses have been known for as long as recorded history, but it was not until the advent of the modern compound light microscope that the device was used in biology. A compound microscope is composed of two elements; a primary magnifying lens and a secondary lens system, similar to a telescope. Light is caused to pass through an object and is then focused by the primary and secondary lens. If the beam of light is replaced by an electron beam, the microscope becomes a transmission electron microscope. If light is bounced off of the object instead of passing through, the light microscope becomes a dissecting scope. If electrons are bounced off of the object in a scanned pattern, the instrument becomes a scanning electron microscope.

The function of any microscope is to enhance **resolution**. The microscope is used to create an enlarged view of an object such that we can observe details not otherwise possible with the human eye. Because of the enlargement, resolution is often confused with **magnification**, which refers to the size of an image. In general, the greater the magnification, the greater the resolution, but this is not always true. There are several practical limitations of lens design which can result in increased magnification without increased resolution.

Various Types

Some of the most important types of microscopes used are as follows:

1. Simple microscope
2. Compound microscope
3. Electron microscope
4. Phase- contrast microscope
5. Interference microscope

1. Simple Microscopes:

Simple microscope consists of a biconvex lens which is moved up and down by an adjustment screw to bring the object in sharp focus. The object is placed on the platform and light is focused with the help of a concave mirror fitted below. In this type of microscope, convex lens of short focal length is used to see magnified image of a small object. The object is placed between the optical centre and the focus of convex lens, its image is virtual, erect and magnified on the same side as the object.



Figure 1.1: Light Microscope

2. Compound Microscope:

A compound microscope consists of two set of convex lenses. A lens of short aperture and short focal length facing the object is called objective. Another set of lens of relatively moderate focal length and large aperture facing the eye is called the eye piece. The objective and the eye piece are placed coaxially at the two end of a tube . The object is placed between the centre of curvature and focus of the objective – it forms real, inverted and magnified image on the other side of the objective. This image acts as an object for the eye piece which then acts as a simple microscope to produce virtual, erect and magnified image.



Figure 1.2: Compound Microscope

3. Electron Microscope:

The organelles of the cell became known after the electron microscope was invented. The electron microscope was developed in 1932 by M. Knoll and Ruska in Germany. It consists of a source of supplying, a beam of electron of uniform velocity, a condenser lens for concentrating the electron on the specimen, a specimen stage for displacing the specimen which transmits the electron beam, an objective lens, a projector lens and a fluorescent screen on which final image is observed. For permanent record of the image, the fluorescent screen is replaced by photographic film. This microscope utilizes a stream of high speed electrons which are deflected by an electromagnetic field in the same way as a beam of light is reflected when it crosses a glass lens. There are two types of electron microscope.

(a) Transmission electron microscope (TEM):

This is used to observe fine structure of cells. Ultra thin sections of the object are prepared and they are stained with a heavy metal (gold or palladium) to make certain part dense, and inserted in the vacuum chamber of the microscope. A 100,000 volt electron beam is focused on the section and manipulated prepared from the image may be enlarged with enough resolution to achieve a total magnification of over 20 million times.

(b) Scanning electron microscope (SEM):

It is used to study the surfaces of the cell and organisms. In this microscope, the image is formed by electrons reflected back from the object. The image formed by this microscope has a remarkable three dimensional appearance. Typically magnification of scanning electron microscope is around 20,000 times.

4. Phase- Contrast Microscope:

This is used to study the behavior of living cells, observe the nuclear and cytoplasmic changes taking place during mitosis and the effect of different chemicals inside the living cells. By using the phase-contrast microscope, an image of strong contrast of the object is obtained.

It is a contrast-enhancing optical technique that can be utilized to produce high-contrast images of transparent specimens, such as living cells (usually in culture), microorganisms, thin tissue slices, fibers, glass fragments, and sub-cellular particles (including nuclei and other organelles). In effect, the phase contrast technique employs an optical mechanism to translate minute variations in phase into corresponding changes in amplitude, which can be visualized as differences in image contrast.

One of the major advantages of phase contrast microscopy is that living cells can be examined in their natural state without previously being killed, fixed, and stained. As a result, the dynamics of ongoing biological processes can be observed and recorded in high contrast with sharp clarity of minute specimen detail.



Figure 1.3: Phase- Contrast Microscope

5. Interference Microscope:

Interference microscope is used for quantitative studies of macromolecules of the cell components, for example it is used for determination of lipid, nucleic acids and protein contents of the cell. Interferometry is a traditional technique in which a pattern of bright and dark lines (fringes) result from an optical path difference between a reference and a sample beam.

The incoming light is split inside an interferometer, one beam going to an internal reference surface and the other to the sample. After reflection, the beams recombine inside the interferometer, undergoing constructive and destructive interference and producing the light and dark fringe pattern.

A precision translation stage and a CCD camera together generate a 3D interferogram of the object that is stored in the computer memory. This 3D interferogram of the object is then transformed by frequency domain analysis into a quantitative 3D image providing surface structure analysis.



Figure 1.4: Interference Microscope

Functioning of a Microscope



Turn the revolving turret (2) so that the lowest power objective lens (eg. 4x) is clicked into position.

Place the microscope slide on the stage (6) and fasten it with the stage clips.

Look at the objective lens (3) and the stage from the side and turn the focus knob (4) so the stage moves upward. Move it up as far as it will go without letting the objective touch the coverslip.

Look through the eyepiece (1) and move the focus knob until the image comes into focus.

Adjust the condenser (7) and light intensity for the greatest amount of light.

Move the microscope slide around until the sample is in the centre of the field of view.

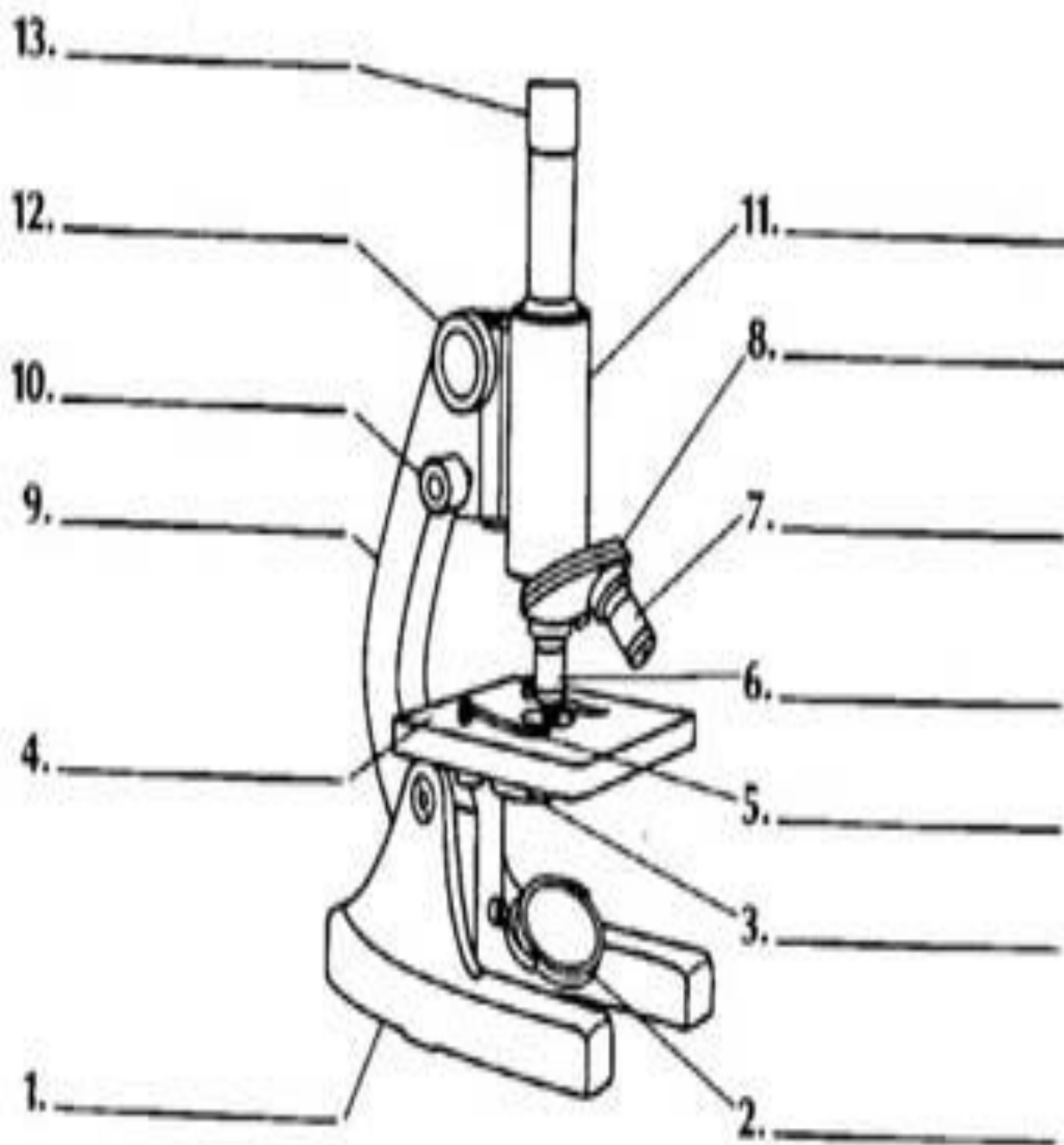
Use the focus knob (4) to place the sample into focus and readjust the condenser (7) and light intensity for the clearest image (with low power objectives you might need to reduce the light intensity or shut the condenser).

When you have a clear image of your sample with the lowest power objective, you can change to the next objective lenses. You might need to readjust the sample into focus and/or readjust the condenser and light intensity. If you cannot focus on your specimen, repeat steps 3 through 5 with the higher power objective lens in place. Do not let the objective lens touch the slide!

When finished, lower the stage, click the low power lens into position and remove the slide.

Task I

Label the following diagram:



Task II

Enlist different steps of viewing object under microscope:

[illegible]

Section 2

Slide Preparation

Section 2: Slide Preparation

Contents:

- Slide preparation for microscope
- Steps for making histology slides for microscopic examination
- Tasks

Learning Outcomes:

At the end of this section, students will be able to;

- Describe steps for slide making
- Prepare slides for cheek cells and RBC

Slide Preparation for Microscope

Dry mount: It requires no water (slide, object, cover slip); usually used for inanimate objects that don't require water to live.

1. Place slide on a flat surface.
2. Lay specimen on top of slide (use as thin of a specimen as possible - 1 cell layer thick is best).
3. Place cover slip slowly on top of specimen as flat as possible.

Wet mount: It requires water (slide, water, object, cover slip); used to prepare slides that hold living organisms (mobile or not).

1. Place slide on a flat surface.
2. Place a drop of water on the slide. Add the specimen to the drop of water (at times, you may want to have the specimen already on the slide before adding the water).
3. Hold the cover slip by its sides and lay its bottom edge on the slide close to the specimen. Holding the cover slip at a 45° angle helps.
4. Slowly lower the cover slip so that it spreads the water out. If you get air bubbles (looking like little black doughnuts), gently press on the cover slip to move them to the edge. If there are dry areas under the cover slip, add a little more water at the edge of the cover slip. Too much water can be dabbed off with a piece of paper towel.
5. Moving organisms can be slowed down with commercially prepared solutions, such as Protoslo. A few strands from a cotton ball added to the water also can help trap and slow down organisms.

Staining specimens: Lugol's iodine, methylene blue, or crystal violet may be added to specimens in order to increase contrast. The stain can be directly added to the water when first preparing the slide or it can be added later after first viewing the specimen without the stain. Add a drop of the stain along one edge of the cover slip. Placing a piece of paper towel along the opposite edge of the cover slip will help draw the stain under the cover slip.

CAUTION: The above dyes will stain skin and clothing. They are also harmful if ingested.

Steps for making histology slide for microscopic examination

Following are the steps for making histological slides:

1. Tissue fixation:

Slide preparation begins with fixation of the tissue sample. Fixation is a crucial step in tissue preparation, and its main purpose is to prevent tissue autolysis and putrefaction. For best results, biological tissue samples should be transferred into fixative immediately after collection. Although there are many types of fixative, most specimens are fixed in 10% neutral buffered formalin. The optimum formalin-to-specimen volume ratio should be at least 10:1. This will allow most tissues to become adequately fixed within 24-48 hours. After fixation, specimens are trimmed using a scalpel to enable them to fit into an appropriately labeled tissue cassette.

2. Tissue processing:

Processing of tissues requires the following steps:

- Dehydration is the first step, which involves immersing your specimen in increasing concentrations of alcohol to remove the water and formalin from the tissue.
- Clearing is the next step, in which an organic solvent such as xylene is used to remove the alcohol and allow infiltration with paraffin wax.

- Embedding is the final step, where specimens are infiltrated with the embedding agent – usually paraffin wax. The tissue is then embedded in paraffin wax, creating what is now referred to as the “block”. Once the block solidifies upon cooling, it provides a support matrix that allows for very thin sectioning.

3. **Sectioning:**

The tissue block is now ready to be cut into sections that can be placed on a slide. Blocks are chilled on a refrigerated plate or ice tray for at least 10 minutes before sectioning. A microtome is an instrument used to slice extremely thin tissue sections. Most tissue blocks are cut at around 4- 5 μm . Once cut, the tissue sections are carefully transferred to a warm water bath to allow them to flatten out. Here they are allowed to float on the surface and can then be scooped up onto a slide placed under the water level. Slides are then allowed to dry upright at 37°C for a few hours to gently melt the excess paraffin wax and fix the section to the slide.

4. **Staining:**

Most cells are transparent, and appear almost colorless when unstained. Histochemical stains are therefore used to provide contrast to tissue sections, making tissue structures more visible. The standard histochemical stain used for routine purposes is the haematoxylin and eosin (H&E) stain. Following staining, a glass cover slip is mounted over the tissue specimen on the slide, using optical grade resin, to help protect the specimen.

Task 1:

Preparation of Cheek cell slide:

Procedural steps:

[illegible]

Findings:

Diagram:

Task 2:

Preparation of Red Blood Cell slide:

Procedural steps:

[illegible]

Findings:

Diagram:

Task 3:

Measurement of Blood Glucose Level:

Procedural steps:

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

Findings:

Task 4:

Blood group testing:

Procedural steps:

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

Findings:

Task 5:

Blood fractionation:

Procedural steps:

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

Findings:

Task 6:

Detecting fungal infections using Potassium Hydroxide:

Procedural steps:

[illegible]

Findings:

Diagram:

Section 3

Histopathological slide identification

SLIDE 1

Identify the slide:

Histological Features:

Differential Diagnosis:

Draw and label the diagram:



SLIDE 2

Identify the slide:

Histological Features:

Differential Diagnosis:

Draw and label the diagram:



SLIDE 3

Identify the slide:

Histological Features:

Differential Diagnosis:

Draw and label the diagram:



SLIDE 4

Identify the slide:

Histological Features:

Differential Diagnosis:

Draw and label the diagram:



SLIDE 5

Identify the slide:

Histological Features:

Differential Diagnosis:

Draw and label the diagram:



SLIDE 6

Identify the slide:

Histological Features:

Differential Diagnosis:

Draw and label the diagram:



SLIDE 7

Identify the slide:

Histological Features:

Differential Diagnosis:

Draw and label the diagram:



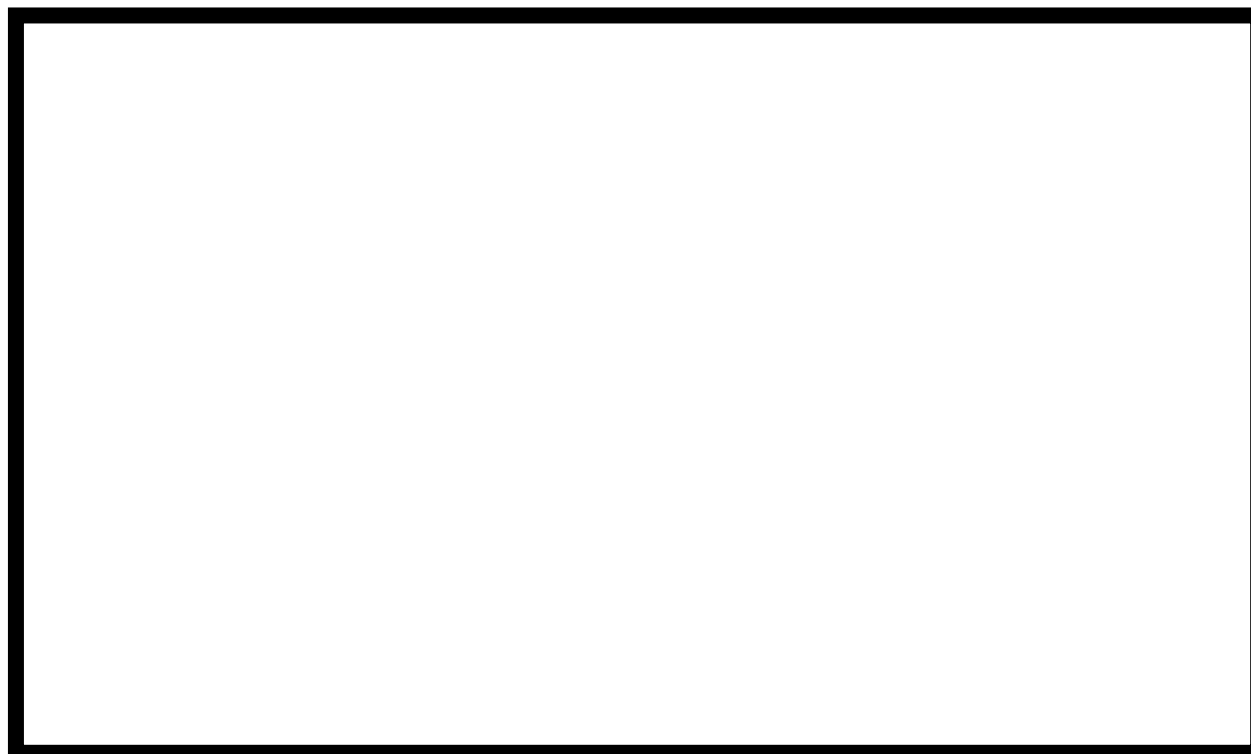
SLIDE 8

Identify the slide:

Histological Features:

Differential Diagnosis:

Draw and label the diagram:



SLIDE 9

Identify the slide:

Histological Features:

Differential Diagnosis:

Draw and label the diagram:



SLIDE 10

Identify the slide:

Histological Features:

Differential Diagnosis:

Draw and label the diagram:



Section 4:

Objectively Structured Practical Exam Questions

CHAPTER 1

**DEVELOPMENTAL
ANOMALIES OF THE ORAL
REGION**

OSPE 1

A patient presented to dental OPD with a complaint of generalized mobility of teeth. Her medical file showed continuing treatment of dermatologist for palmer keratosis. Her dental radiographs showed generalized bone loss.

A. What is your most probable diagnosis?

B. What is the pathogenesis of this condition?

OSPE 2

A patient was referred to the dentist for having abnormal appearance of teeth. His medical record shows deformity of the long bones, history of multiple fractures and blue coloration of sclera.

A. What systemic disorder caused this appearance of teeth?

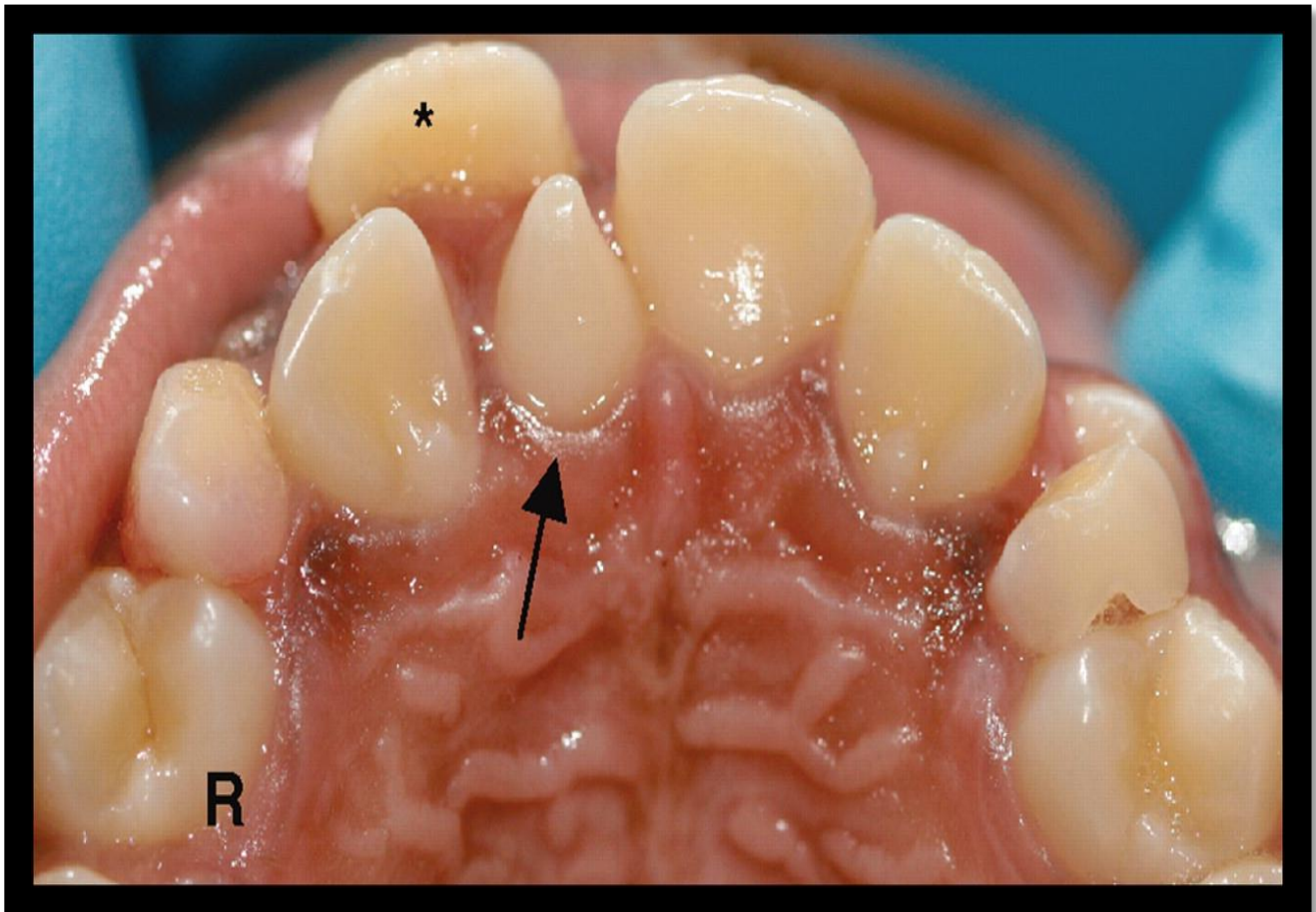
B. What are the histopathological features of this condition?

OSPE 3



- A. Identify the gross specimen.
- B. Name the tooth most commonly affected
- C. Give two consequences.

OSPE 4



A. Identify the condition

B. Give its treatment

OSPE 5



- A. Identify the gross specimen
- B. Give one consequence that ensues if preoperative radiograph is not obtained prior to its extraction

OSPE 6



A. Identify the condition

B. Give the most likely consequence.

OSPE 7



A 25 years old esthetically concerned patient presented to the dental clinic with linear indentation in maxillary central incisors

A. Identify the condition

B. Give the radiographic features of this condition

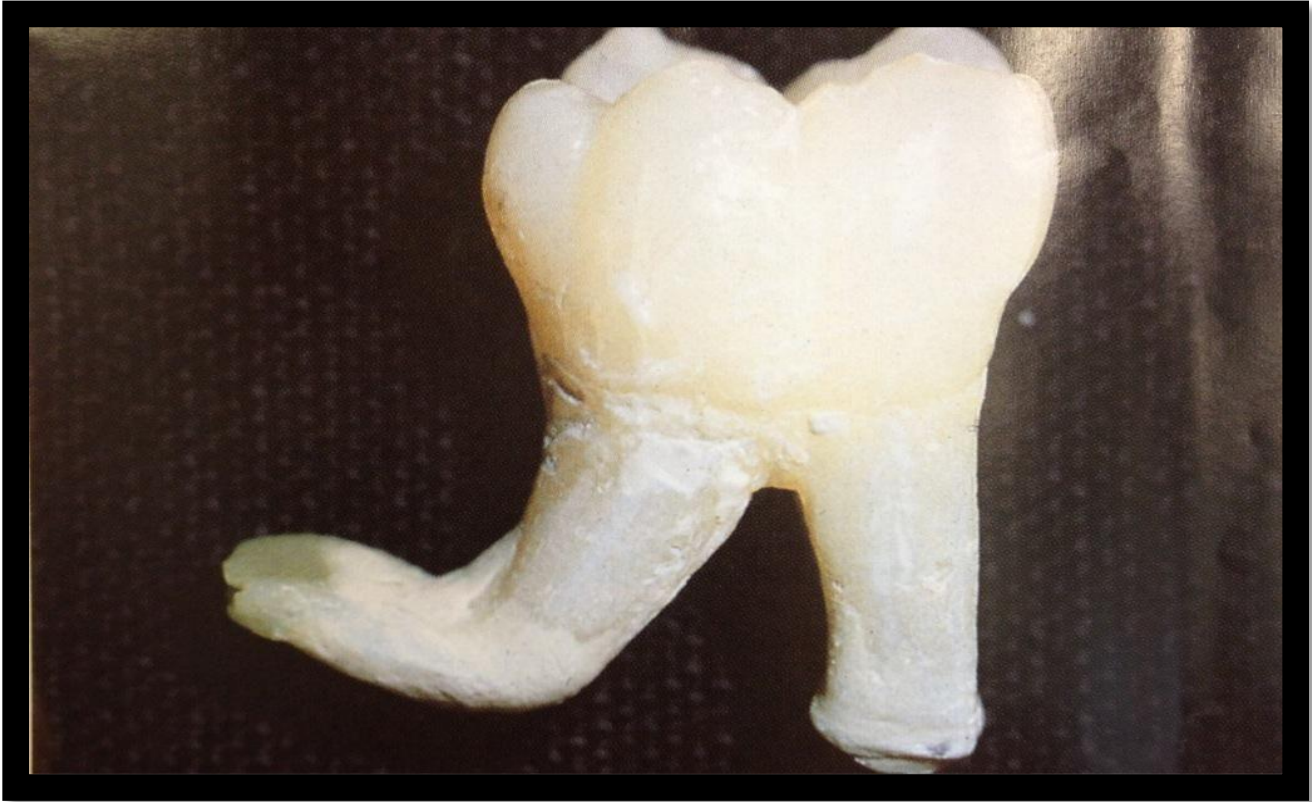
OSPE 8



A. Identify the condition

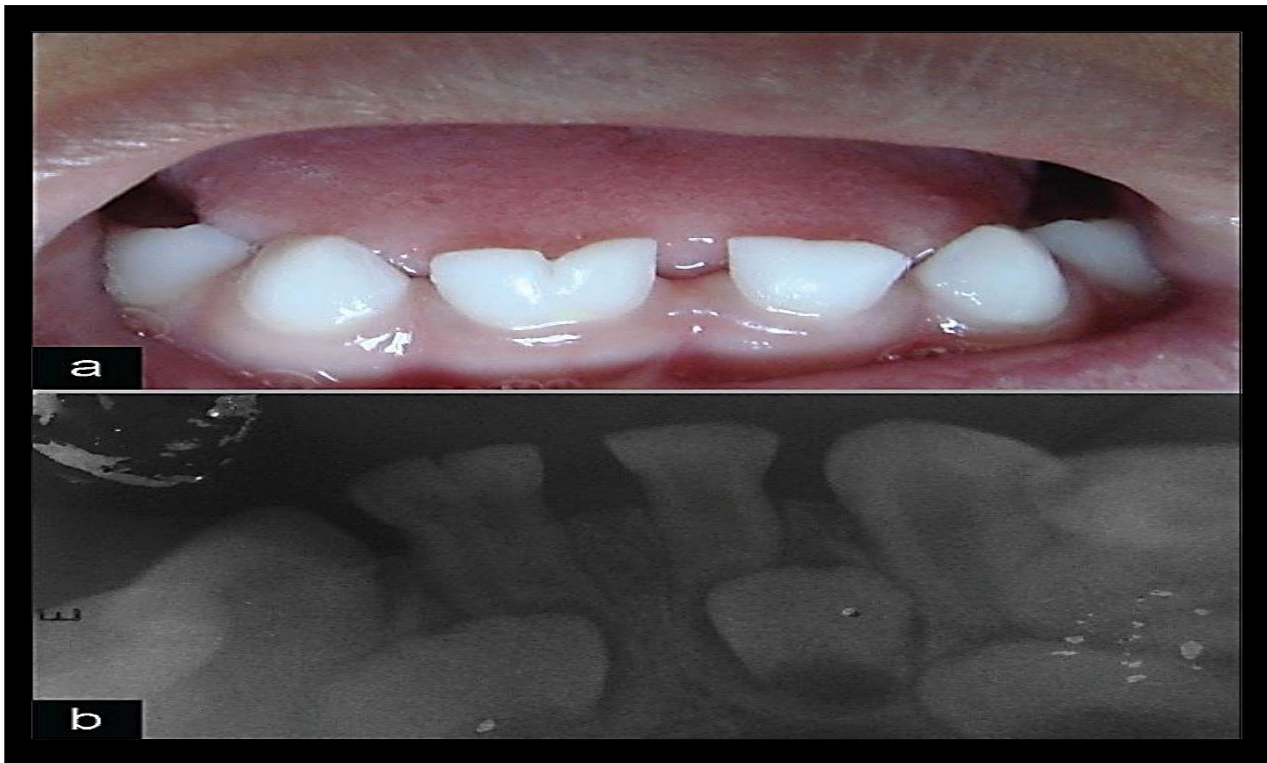
B. What is the underlying cause?

OSPE 9



A. Identify the gross specimen

B. What is the most common reason for this condition?

OSPE 10

On routine examination of deciduous dentition of a patient, a house officer observed an unusual condition of a tooth. Radiograph of the patient was taken.

A. What is your most probable diagnosis?

B. What is the effect of this condition on total count of dentition?

OSPE 11



A. Identify the condition

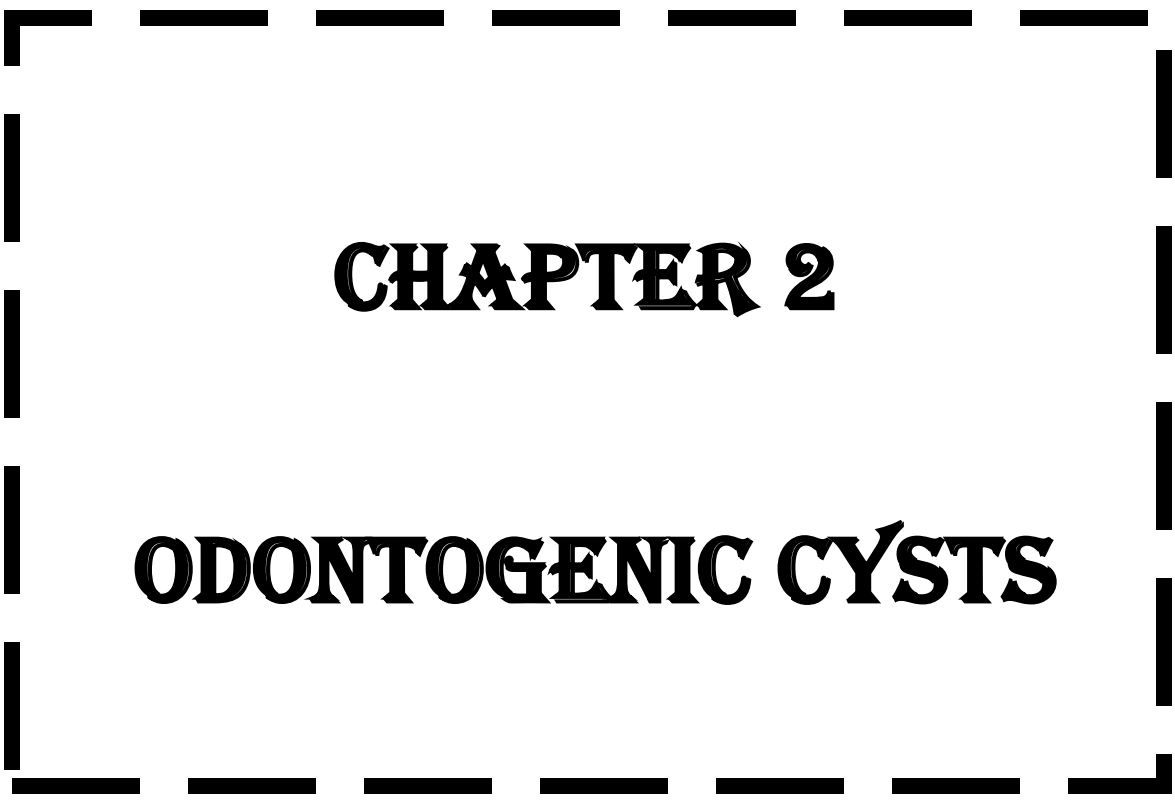
B. How is the anomaly made visible clinically?

OSPE 12



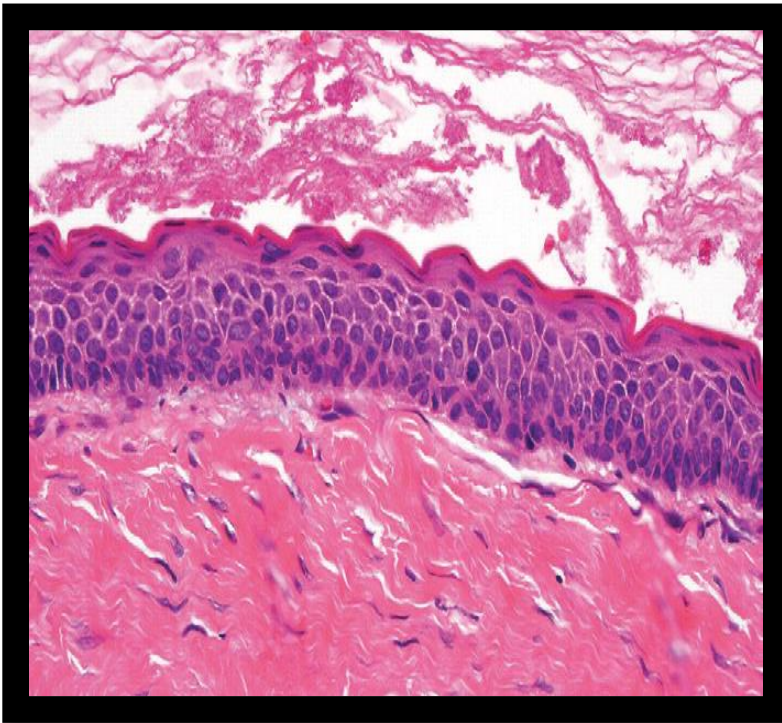
A. Identify the condition

B. Name one feature of Hypohydrotic ectodermal dysplasia



CHAPTER 2

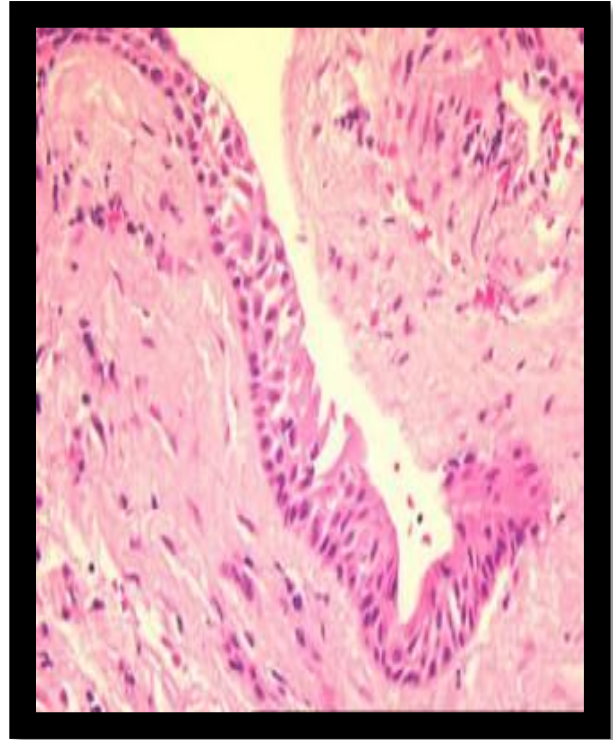
ODONTOGENIC CYSTS

OSPE 13

A 34 year old female patient came to the dental clinic complaining of pain in extraction site in the mandibular posterior region. There was no facial asymmetry or evidence of swelling over the cheek extra orally. An excisional biopsy was performed which revealed the histological slide given.

- A. Give the diagnosis.
- B. Give one radiographic feature.
- C. Give one histopathological feature.

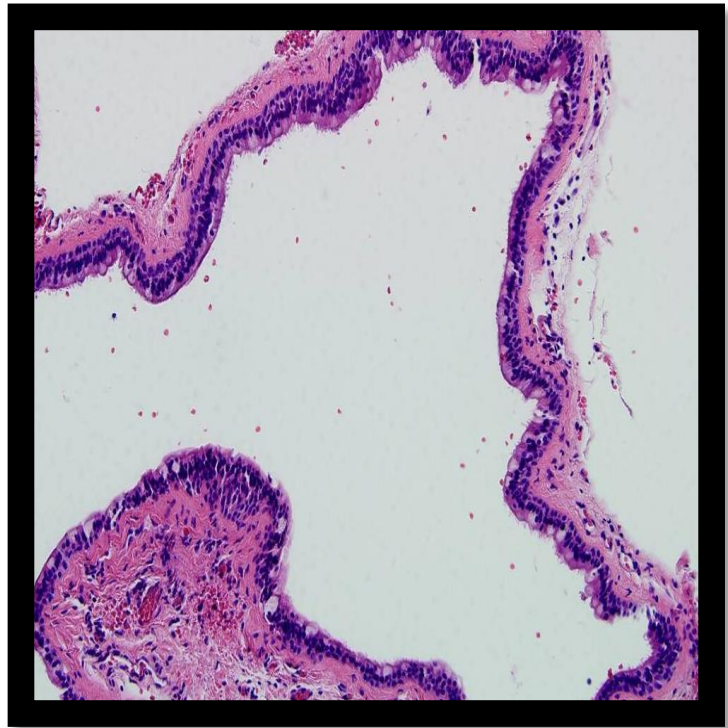
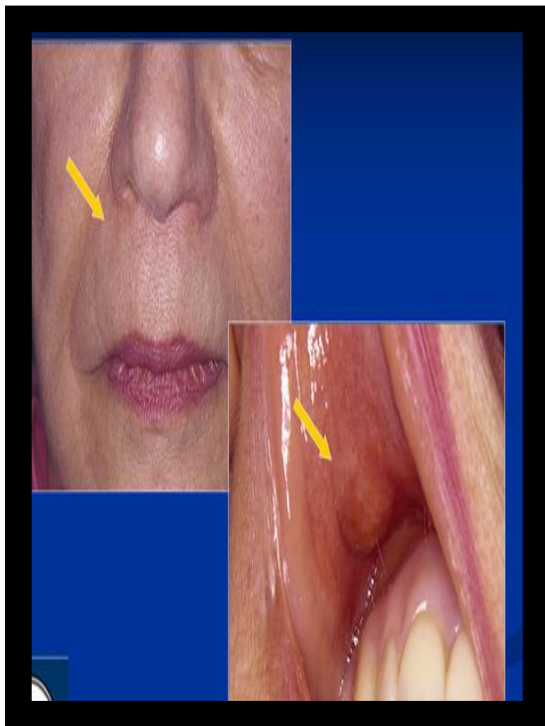
OSPE 14



A 20 year old male patient presented to the dental clinic with the complaint of delayed eruption of his mandibular permanent canine.

A. Identify the lesion related to the tooth?

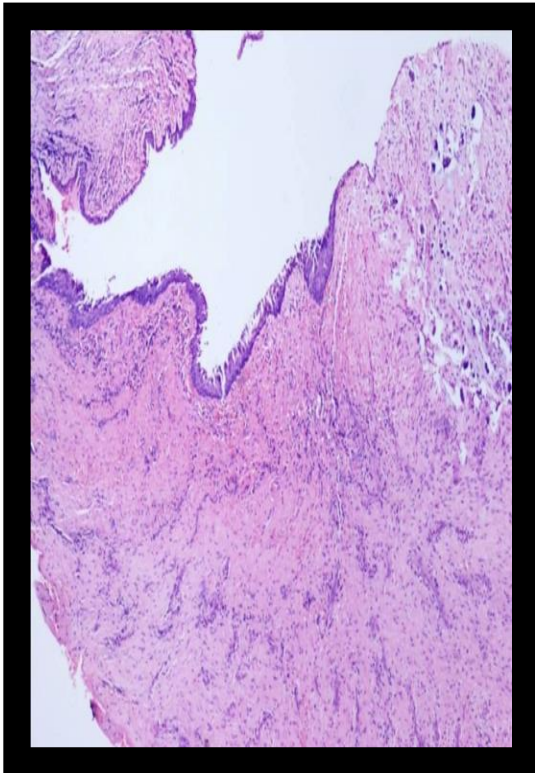
B. Give the histology of this lesion.

OSPE 15

A 35-year old female reported to the clinic with a fluctuant painless swelling in right anterior maxillary region of three years duration. She had right nasal obstruction of 3 months duration with no history of nasal discharge or bleeding.

A. Identify the lesion

B. Give histopathological features

OSPE 16

A 21-year old man presented with a complaint of a swelling inside the mouth, facial asymmetry, numbness and looseness of the anterior teeth and was referred to the Maxillofacial Radiology Department. The radiograph revealed the above findings

A. Identify the condition

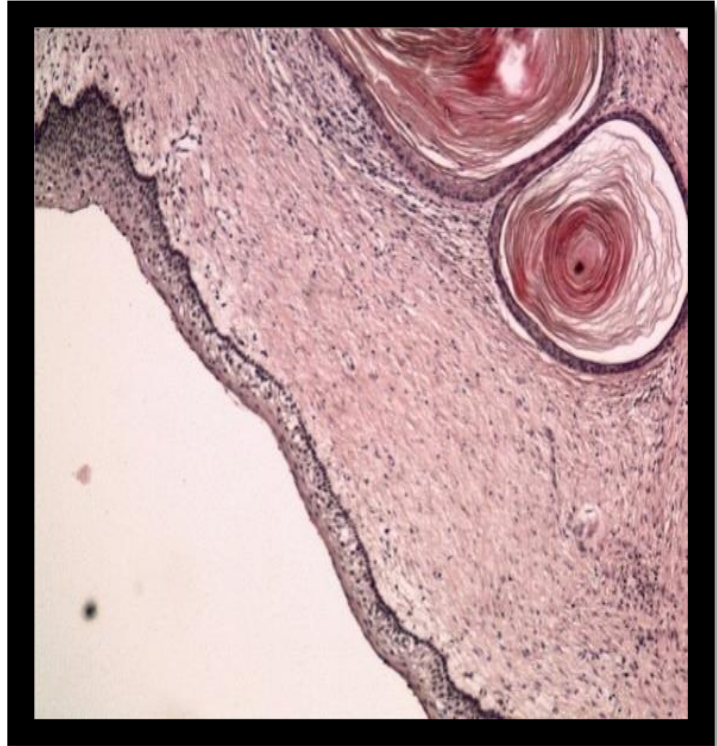
B. What is the most prominent radiographic feature in the picture above?

OSPE 17



- A. Identify the condition this gross specimen is of
- B. Name one predisposing factor

OSPE 18



A 2 months old girl was presented to the clinic. Clinical examination revealed multiple white swellings on the alveolar ridge.

A. What is your diagnosis

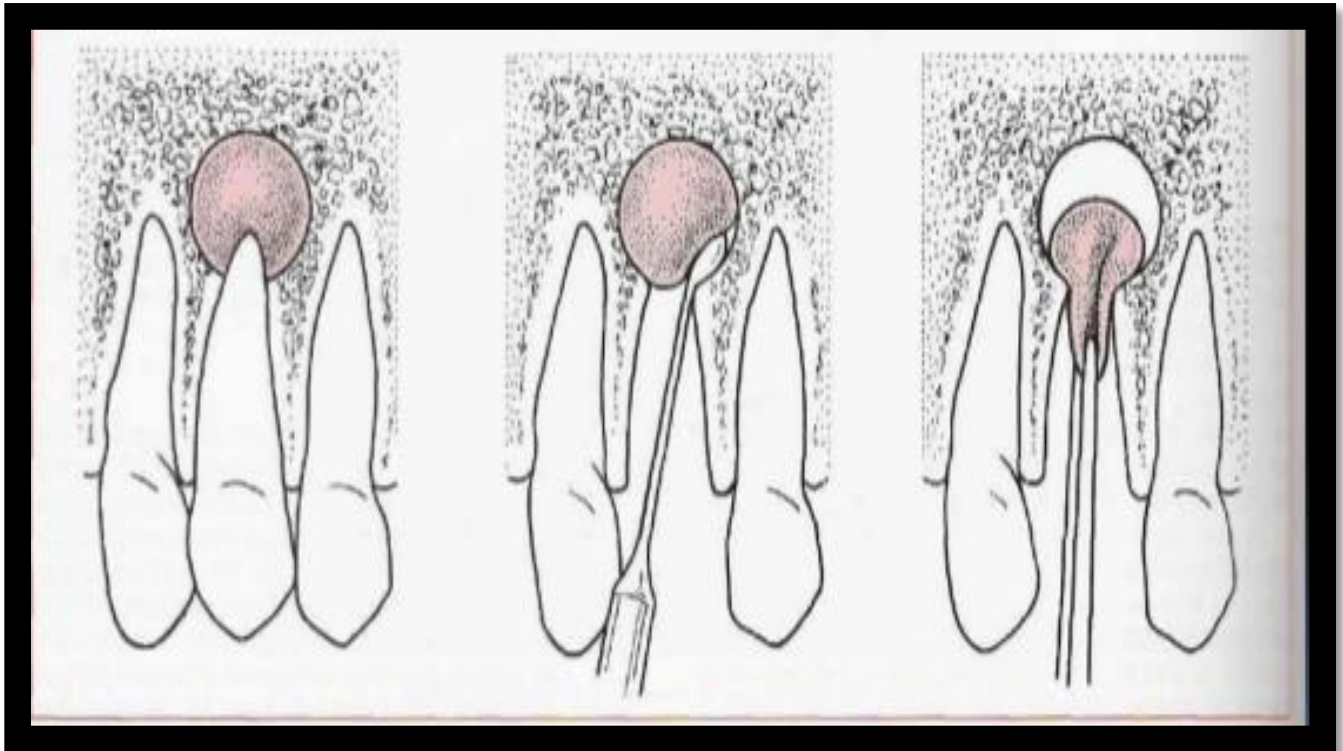
B. Give its histopathology?

OSPE 19

A 7-year-old boy along with his parents reported to our out-patient department with a chief complaint of swelling in relation to the maxillary right central incisor since 1 month. Periapical radiograph showed a developing 21 with almost fifty percent root formation complete.

- A. Give diagnosis
- B. Which cyst is it thought to be a variant of?
- C. Give the treatment?

OSPE 20



- A. Identify the procedure
- B. What is the advantage of this procedure

CHAPTER 3

INFECTIONS

OF

TEETH & BONE

OSPE 21

A patient presented to the clinic with the above clinical presentation. History revealed that the patient had undergone trauma.

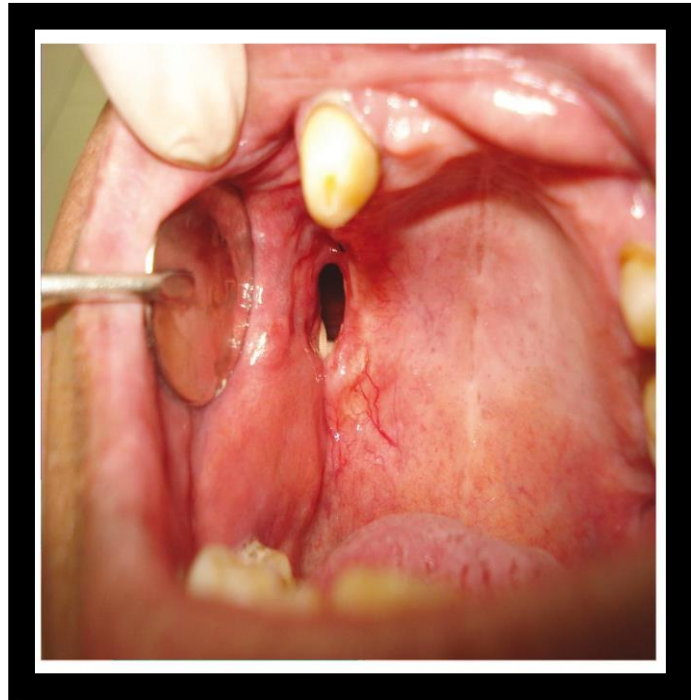
- A. Identify the condition
- B. Explain the discoloration of the tooth

OSPE 22

A 5 year old child presented to the clinic accompanied by his mother. Clinical evaluation revealed the above picture.

A. Identify the condition

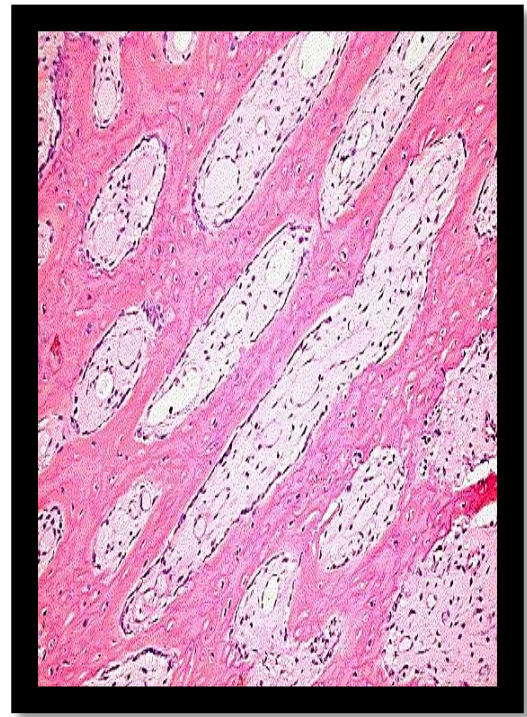
B. Give its treatment

OSPE 23

A patient presented to the clinic with a complaint of pain in his maxillary teeth in the canine and premolar area. Evaluation revealed the presence of a periapical abscess. The affected tooth was found to be grossly carious and was extracted. The above picture was revealed

A. Identify the condition

B. How can it be avoided?

OSPE 24

A young patient presented to the clinic with advanced acute caries and swelling in the mandibular posterior region. The above radiographic findings were revealed.

A. Identify the condition

B. Give one histopathological feature.

OSPE 25

A 10 years old patient presented with puffy, pendulous swelling on lower side of her face. The patient is lethargic with high grade temperature and malaise.

A. Give your diagnosis?

B. What can be the complications associated with it?

OSPE 26



Carefully see the picture and answer the following questions:

- A. Identify the facial space which is involved in this infection?
- B. What will be its complication if left untreated?

OSPE 27

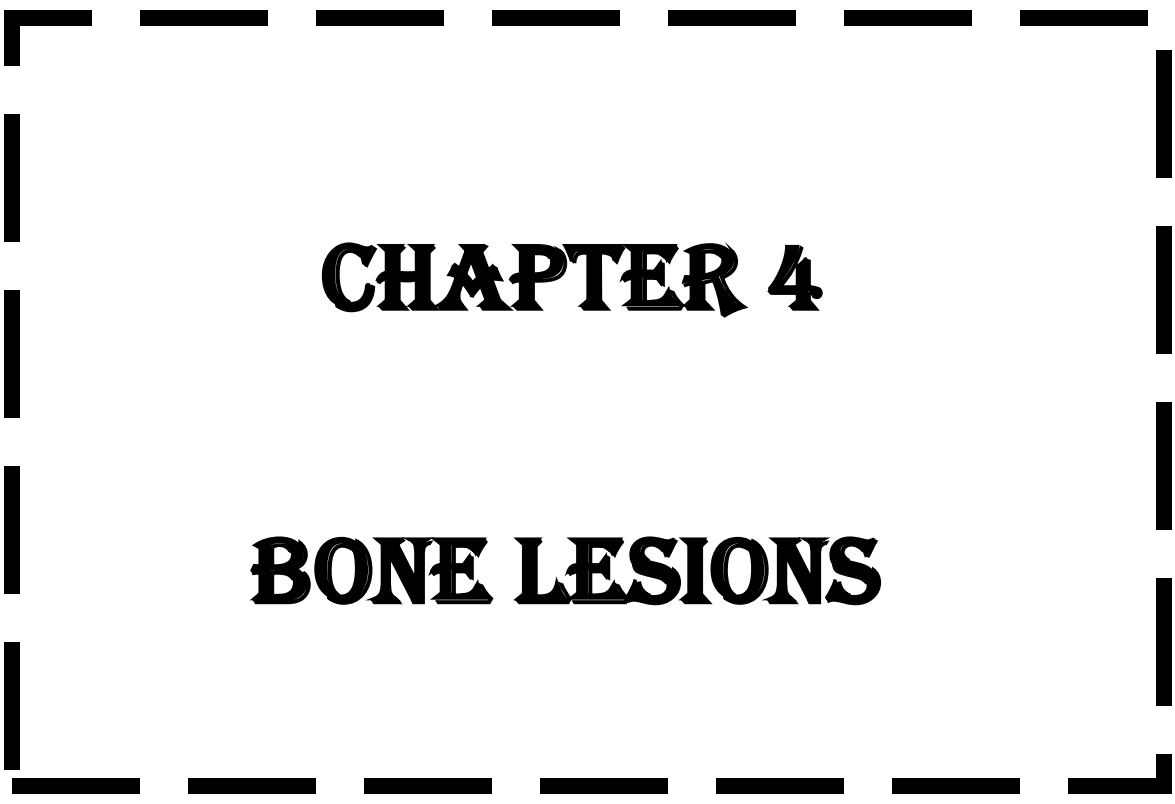


- A. Identify the condition
- B. How will you treat the patient?

OSPE 28

Electrical pulp testing is being done in the picture above to assess the vitality of the tooth.

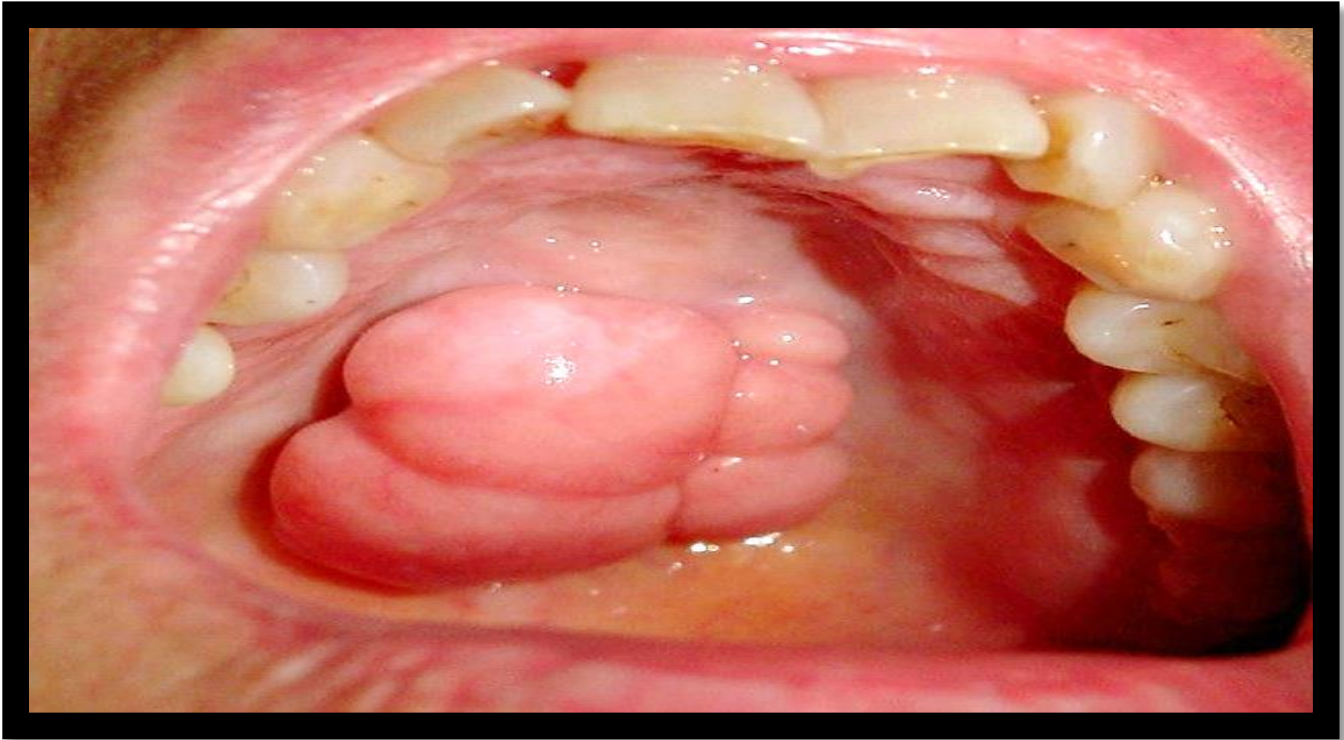
- A. Write down the results in case of Reversible Pulpitis
- B. Write down the results in case of Irreversible Pulpitis



CHAPTER 4

BONE LESIONS

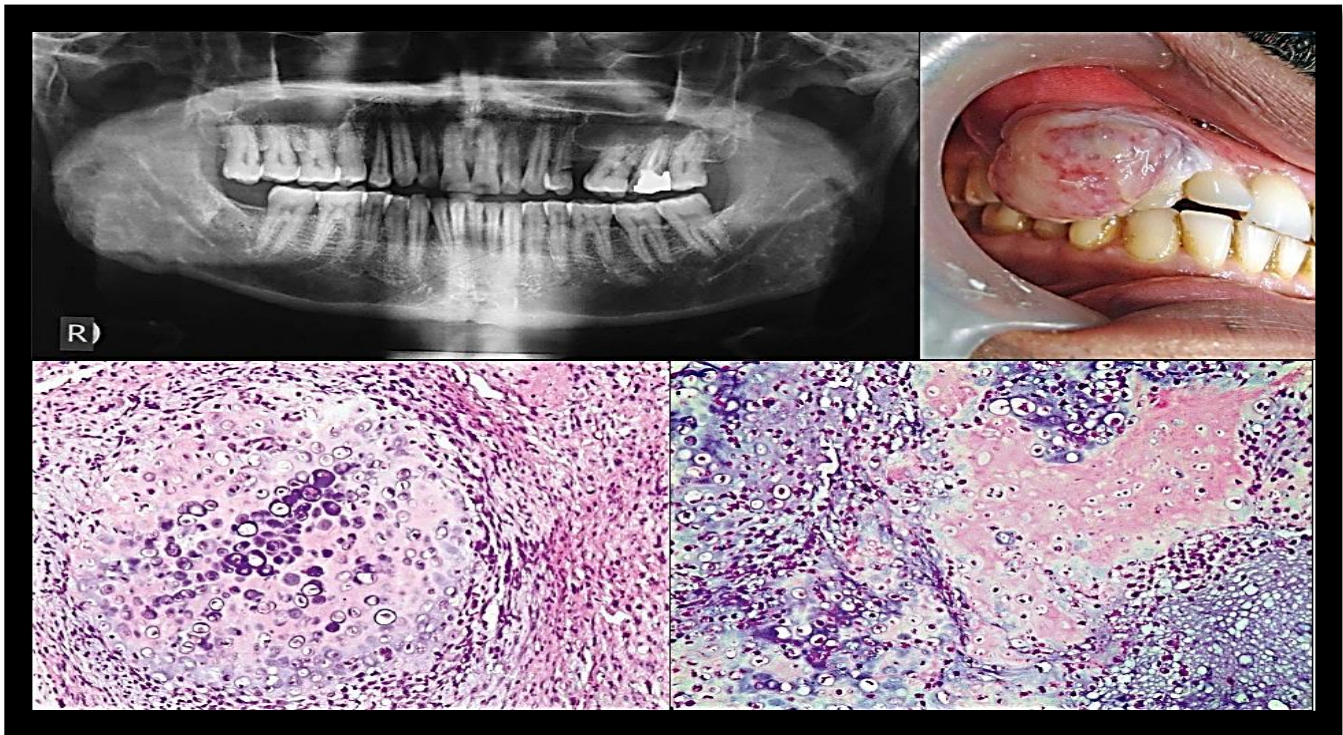
OSPE 29



A 55 year male patient presented to dentist with poor prognosis of his all maxillary teeth. He wants replacement of upper arch with full denture. On clinical examination, a bulge was seen in midline of the palate. He did not report any symptoms (pain or swelling) in that area.

A. What is your most probable diagnosis?

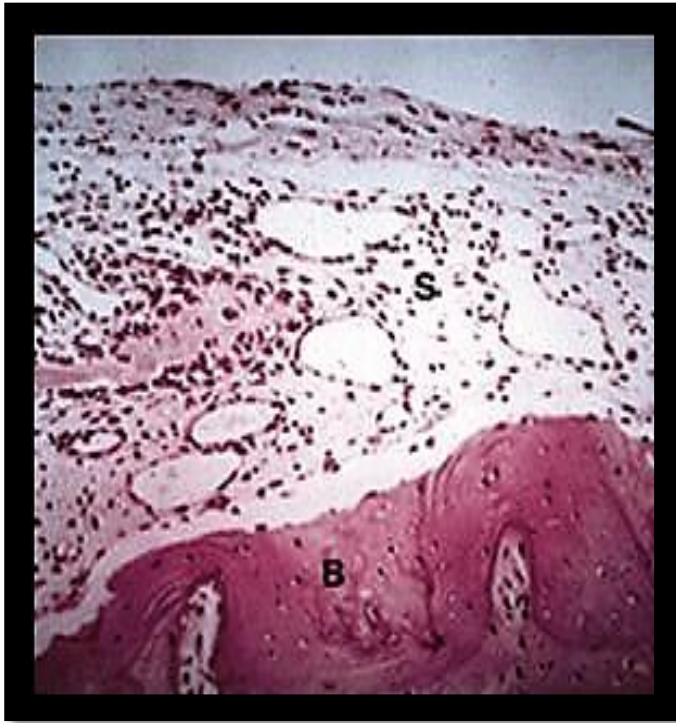
B. How can it create problems in replacement of teeth in the upper arch?

OSPE 30

A 15 year old boy presented with unilateral swelling in maxillary region with history of rapid growth. Pain, loosening of teeth, swelling and paresthesia were observed.

A. What is your most probable diagnosis?

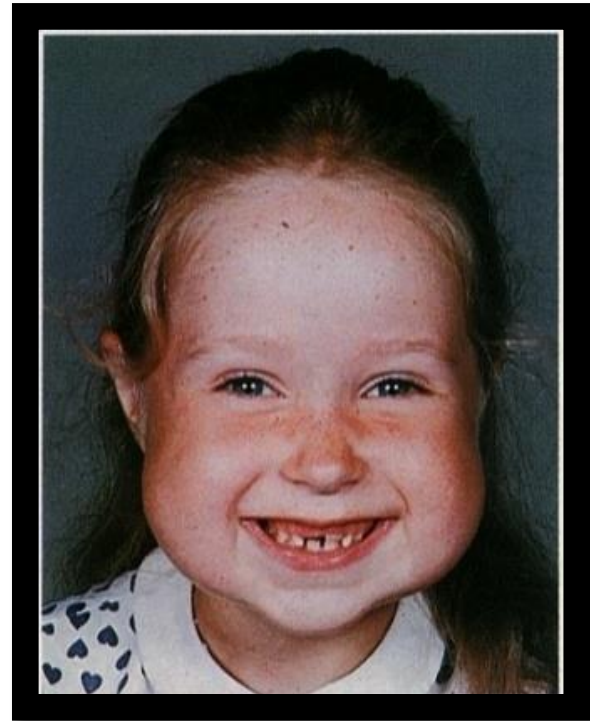
B. What are the radiographic findings in this case?

OSPE 31

A swelling can be observed in the posterior region of an adult woman. On taking radiograph you saw a radiolucent lesion and excisional biopsy revealed the histological section given above:

A. What is the condition?

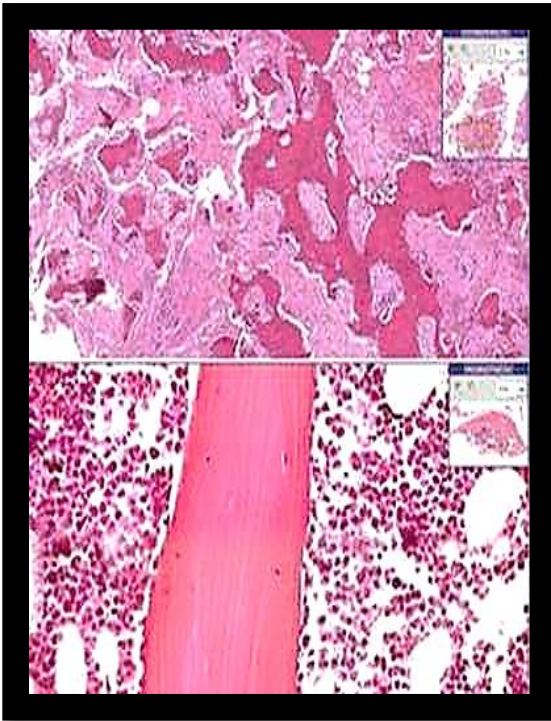
B. Give its pathognomonic histopathology?

OSPE 32

A 10 years old girl presented to the dental clinic with severe malocclusion. Physical examination showed pupils elevated upwards and chubby appearance of her face.

A. Identify the condition

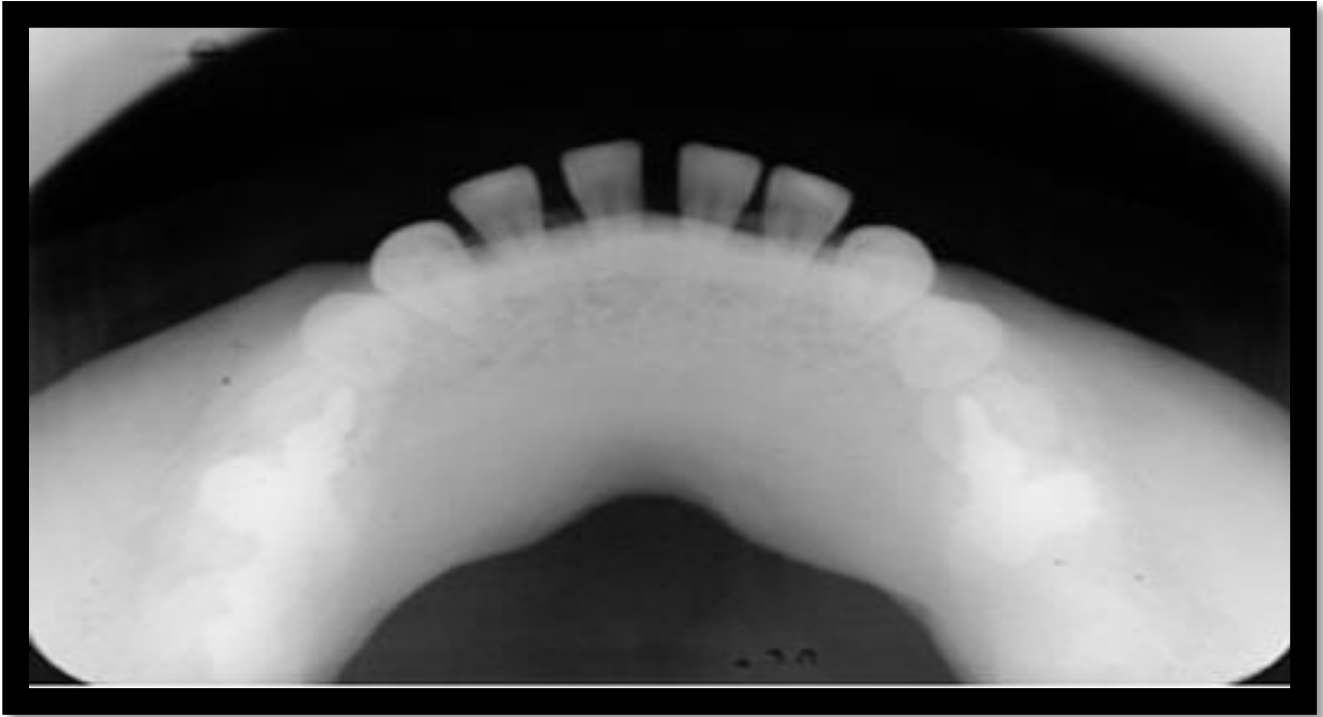
B. What is Jaffe syndrome?

OSPE 33

A patient presented to the clinic with a complaint of development of gradual spacing between his teeth. He also reported an increase in his hat size.

A. Identify the condition

B. Identify the most prominent radiographic feature

OSPE 34

A patient presented to the clinic. He had a short stature. The patient had a history of repeated infections, fractures and hemorrhage. Radiographic evaluation revealed the above findings.

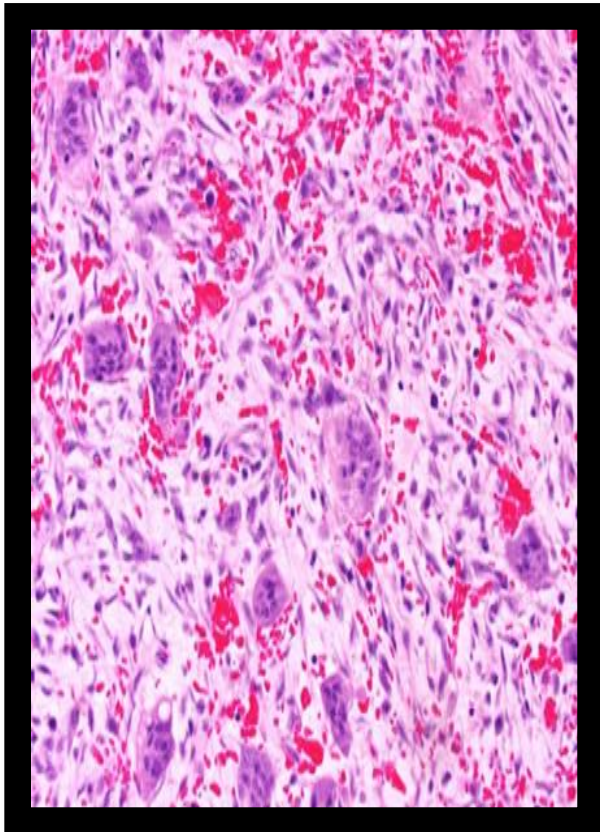
- A. Identify the condition
- B. How will you treat the condition?

OSPE 35

A patient presented to the clinic for routine dental checkup. Radiographic evaluation revealed the above findings.

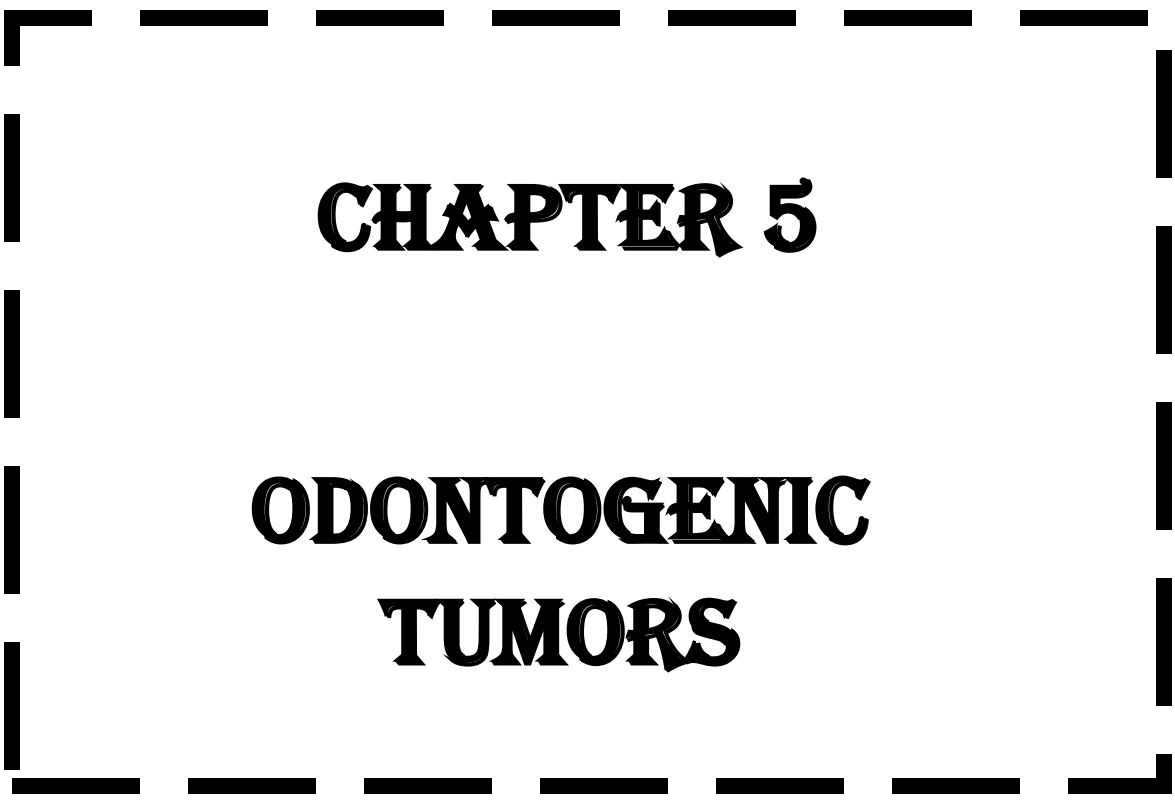
A. Identify the condition

B. Name the most prominent feature of the radiograph

OSPE 36

A 40 year old patient presented to the clinic with a purplish nodule on the gingiva on an edentulous ridge. Radiographic evaluation showed saucerization of the bone.

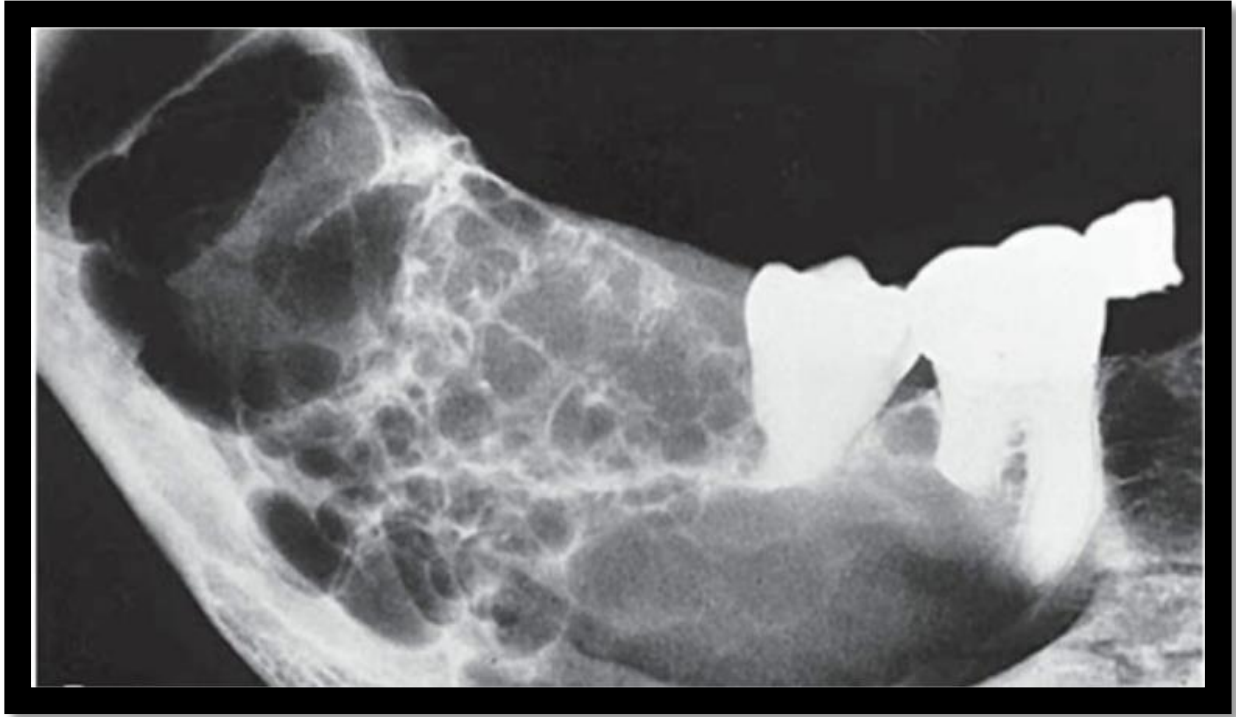
- A. Identify the condition
- B. Give one histopathological finding



CHAPTER 5

ODONTOGENIC TUMORS

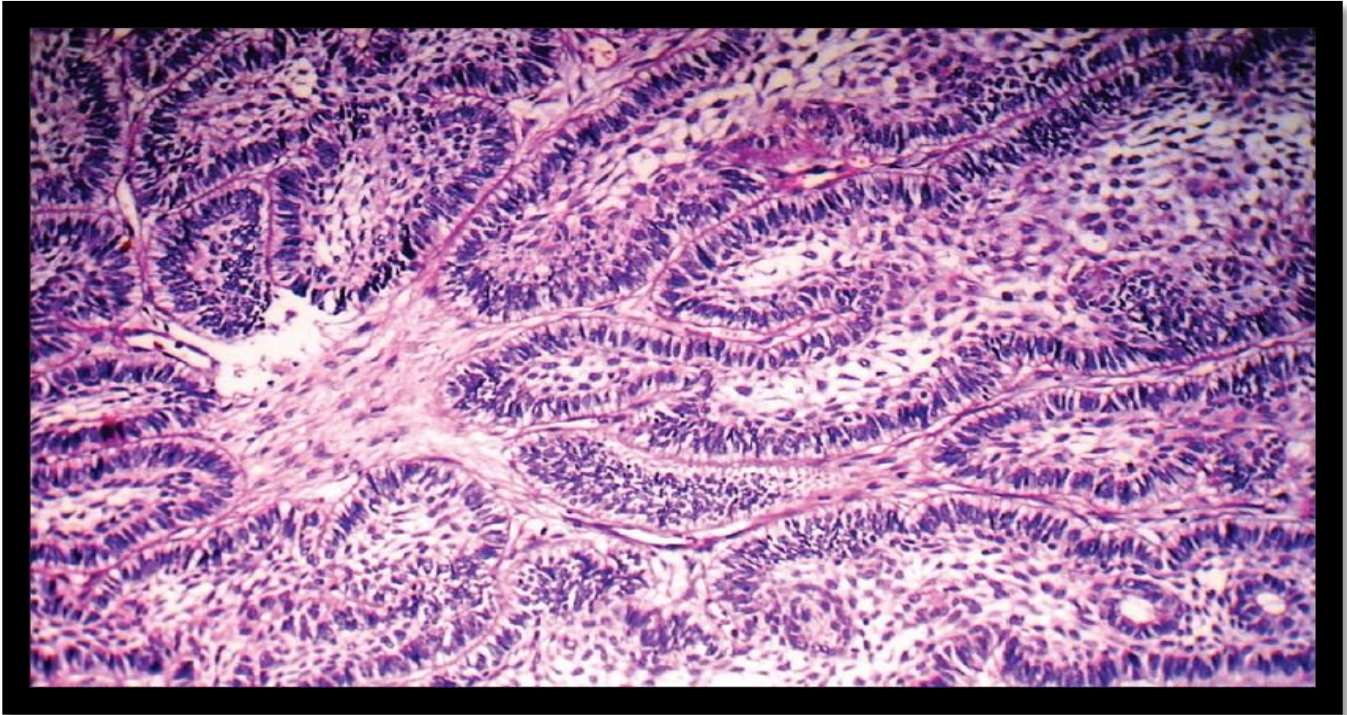
OSPE 37



A radiograph reveals a multilocular radiolucent lesion on the body of the mandible.

A. Give the differential diagnosis.

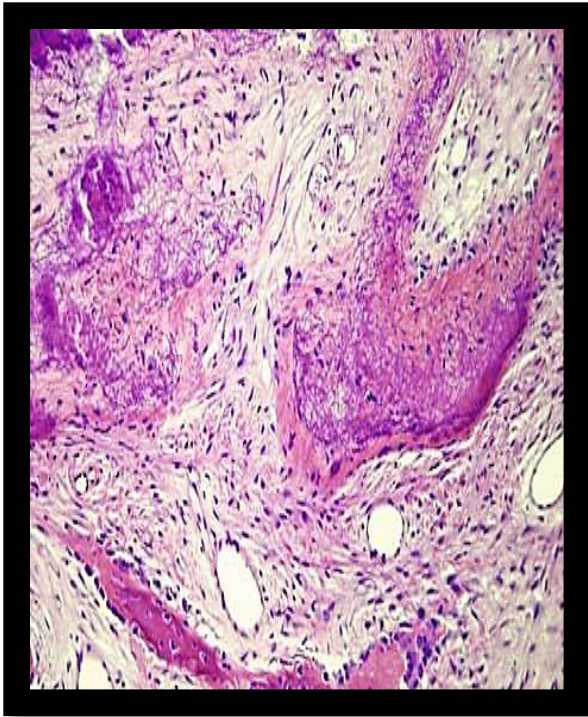
B. What can be the most common complication?

OSPE 38

A 48 year old male patient who presented with the main complaint of loosening of molar teeth also had unilateral nasal obstruction of long duration about which the patient was least concerned. The computed tomography scan revealed a soft tissue polypoidal mass in the right maxillary sinus involving alveolar arch of the maxilla, with expansion of sinus and erosion of posterolateral wall. The biopsy revealed fragments of odontogenic origin.

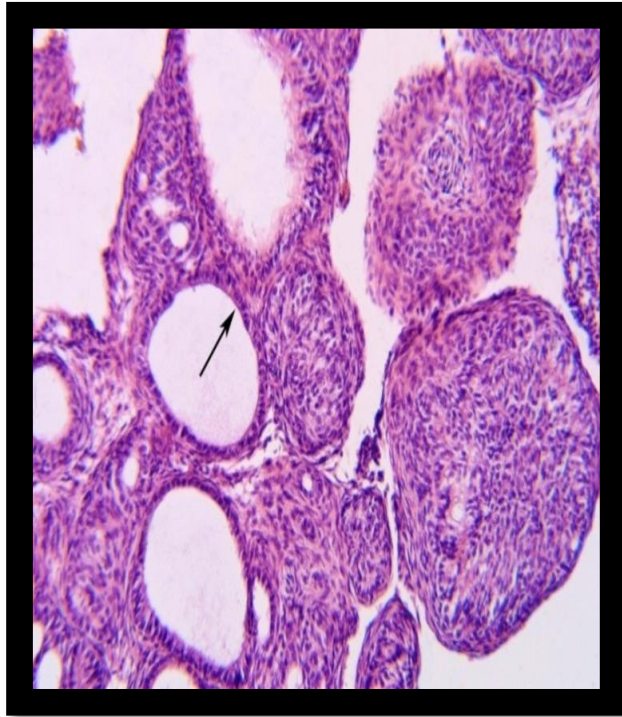
A. Identify histopathological section?

B. Give identification points?

OSPE 39

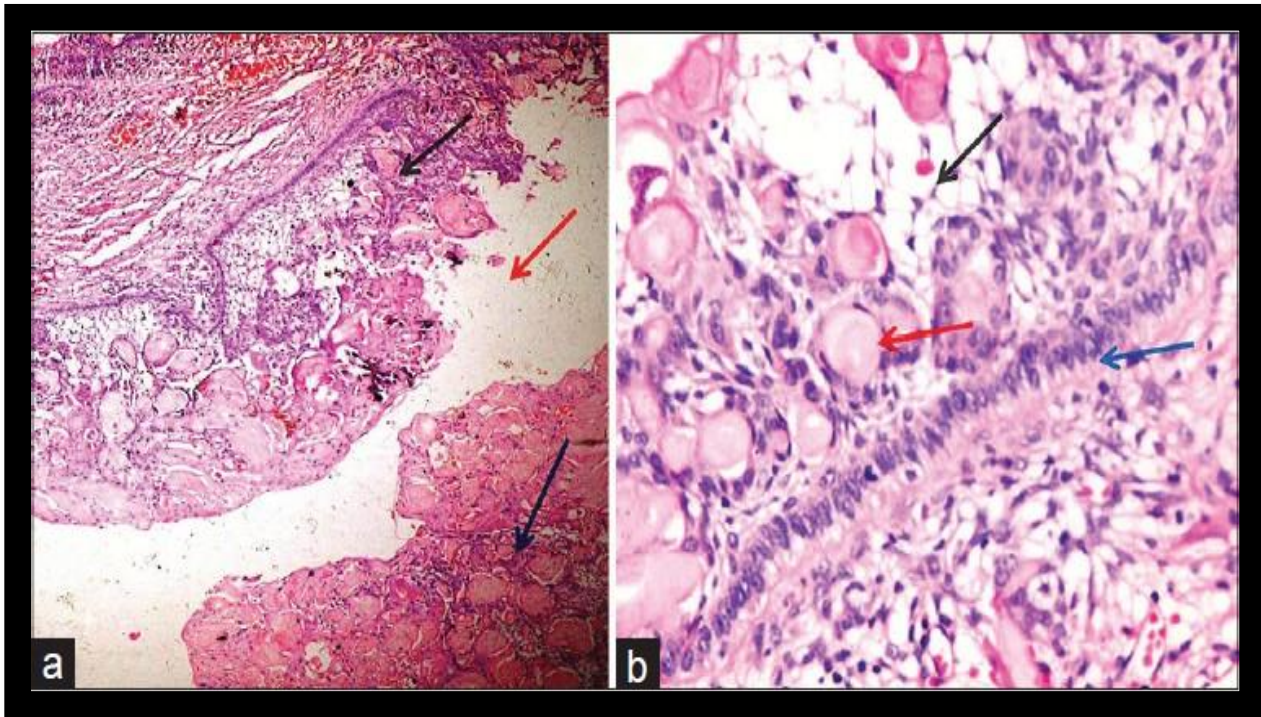
On routine radiograph, a well demarcated round radiopaque lesion surrounded by a radiolucent rim was found fused to the root of lower molar tooth. It was removed and sent to lab for histopathological examination.

- A. What is your most probable diagnosis?
- B. What histopathological features are evident in the slide above?
- C. How will you differentiate this lesion from Osteoid Osteoma?

OSPE 40

A 20 year old patient presented with a swelling in the anterior mandible. Clinical examination revealed a missing canine. Given above are the histopathological findings and radiographic findings.

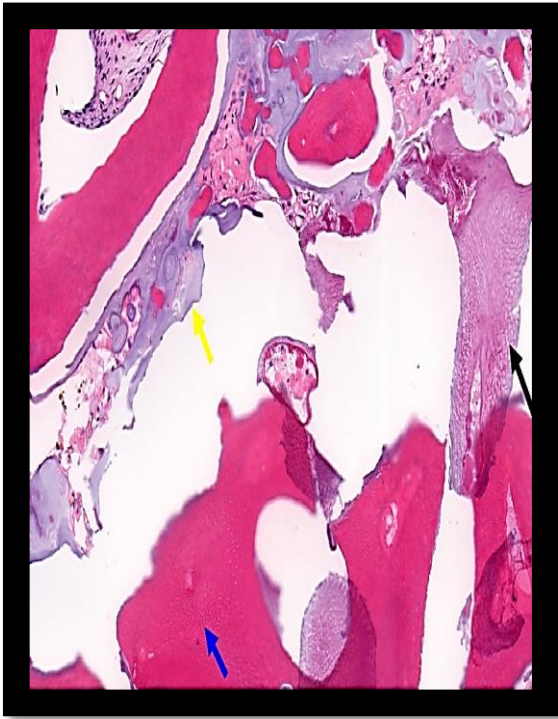
- A. Give your diagnosis
- B. Give one radiographic finding that you can appreciate in the given picture

OSPE 41

A 25 year old patient presented with a painless swelling in the mandibular premolar area. Radiograph revealed a unilocular radiolucency containing a tooth like structure. The above histopathological findings were revealed.

A. Identify the condition

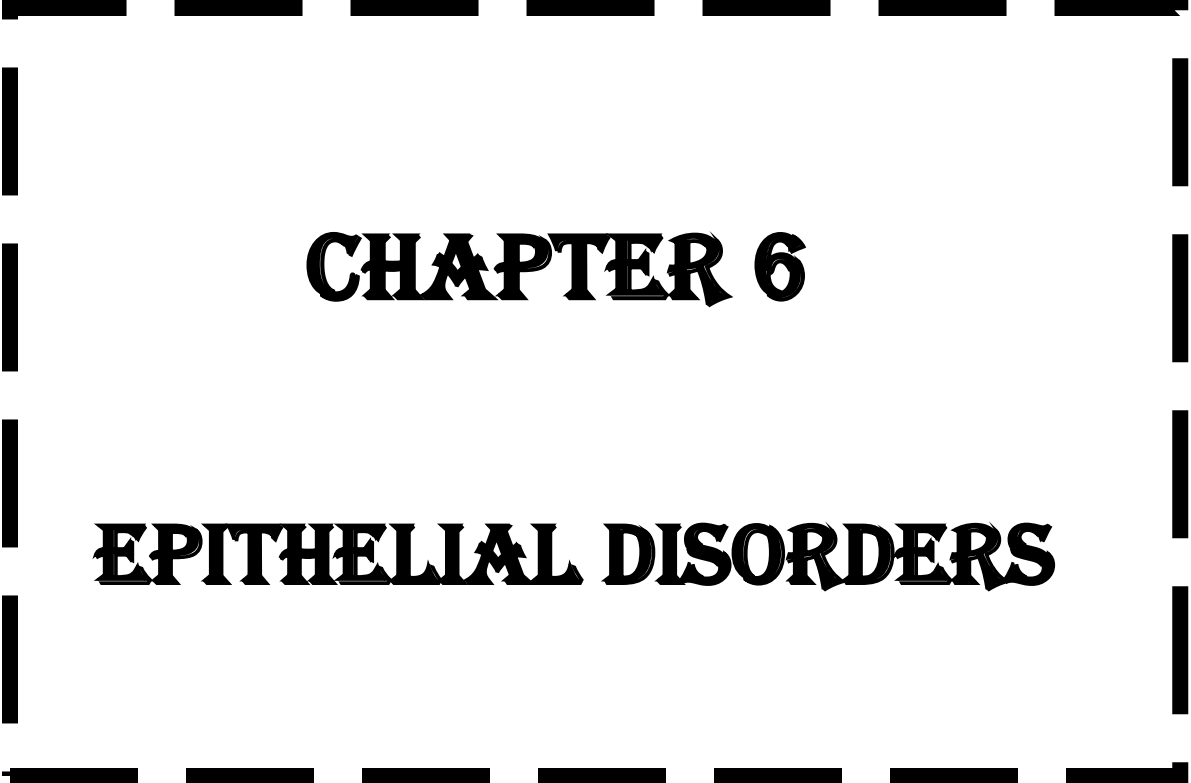
B. Name the pathognomonic histopathological feature

OSPE 42

A patient presented to the clinic with a swelling in the anterior region of the mandible. The above radiographic findings were revealed.

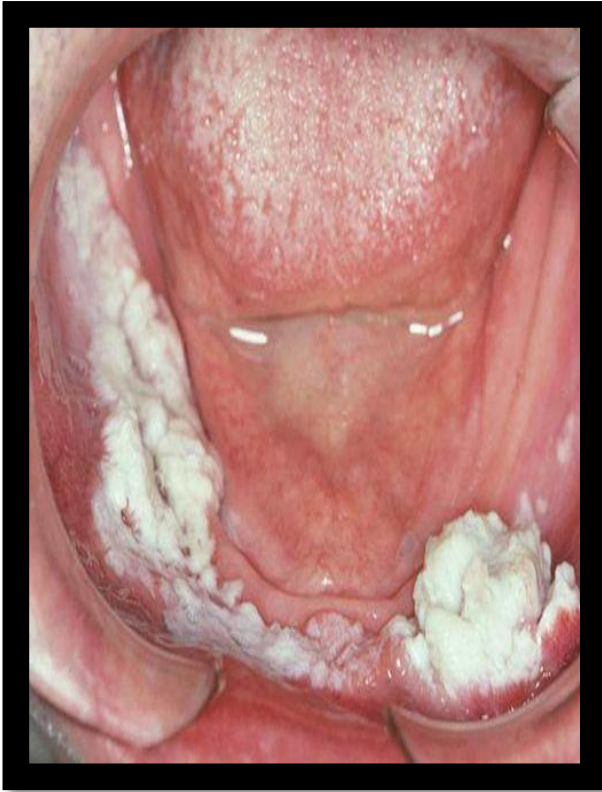
A. Identify the condition

B. Give one histopathological finding



CHAPTER 6

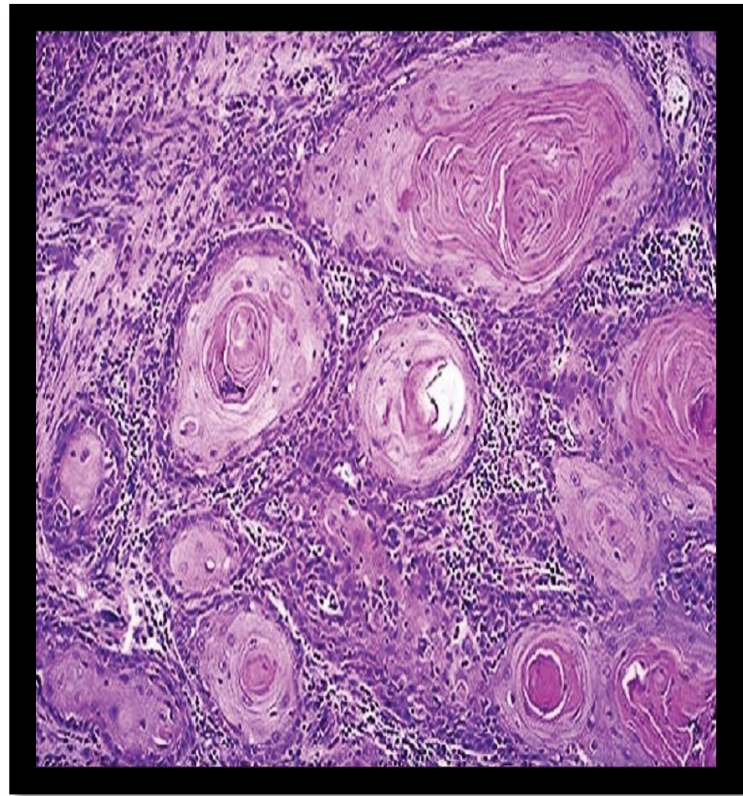
EPITHELIAL DISORDERS

OSPE 43

A 60 year old male presents to you with a lesion arising from the alveolar ridge causing dislodgement of the lower denture.

A. What is your differential diagnosis?

B. Write different points of identification from the above given picture.

OSPE 44

A 55 year old male with a habit of pipe smoking since last ten years presents to you with a non-healing ulcer on the lateral border of the tongue. No lymph node enlargement was observed and the biopsy was taken for diagnostic purpose.

A. Describe the gross appearance of the given lesion.

B. What is your differential diagnosis?

OSPE 45



A chronic smoker presented to the clinic with the above clinical picture.

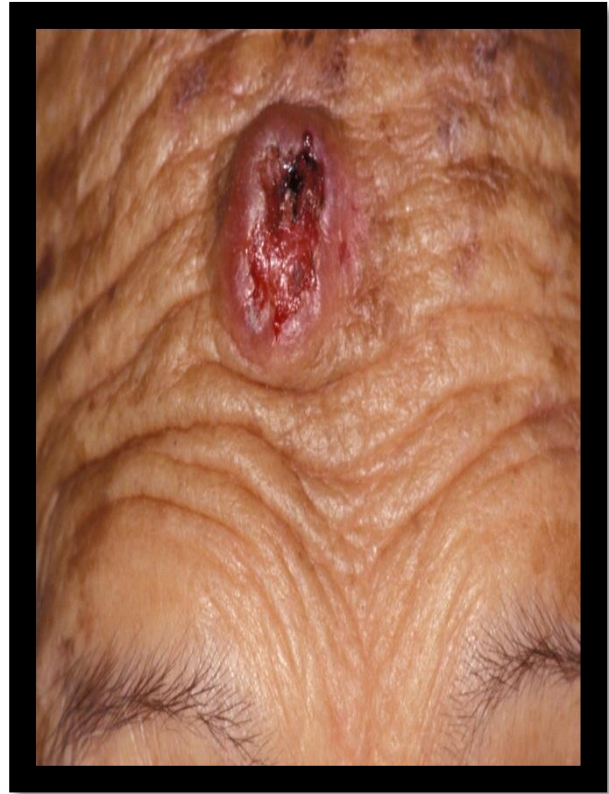
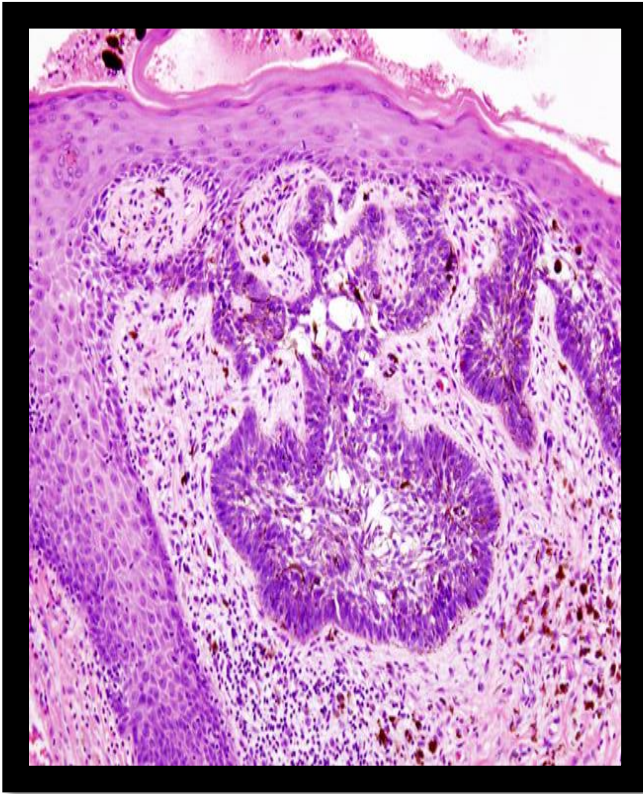
A. Identify the condition

B. Explain its histopathology?

OSPE 46

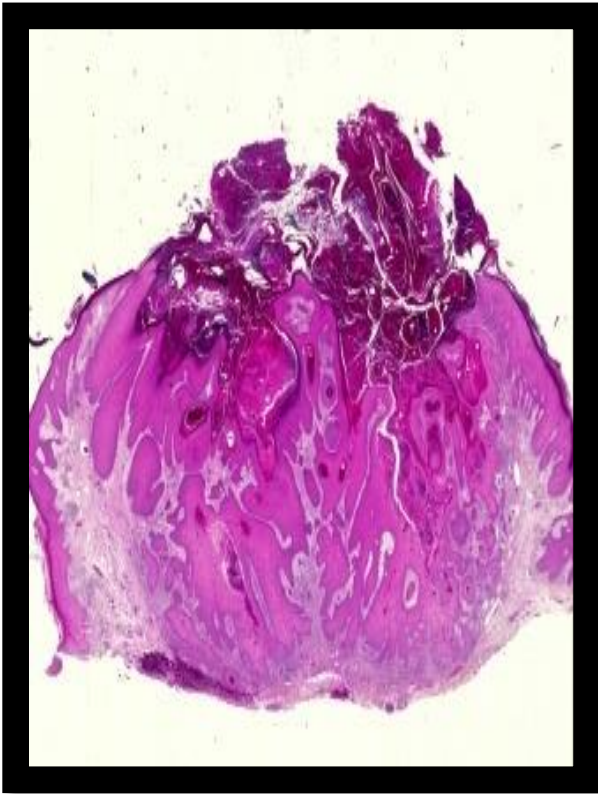
A patient presented to the clinic with a white exophytic growth on the lateral surface of the tongue. Biopsy revealed the above histopathological picture

- A. Identify the condition
- B. Give its histopathology

OSPE 47

A patient presented to the clinic with an ulcer on his forehead. The ulcer had elevated smooth rolled borders.

- A. Identify the condition.
- B. Give one histopathological feature.

OSPE 48

A patient presented with a well circumscribed brownish endophytic nodule on his lower lip.

A. Identify the condition

B. Give its histopathology?

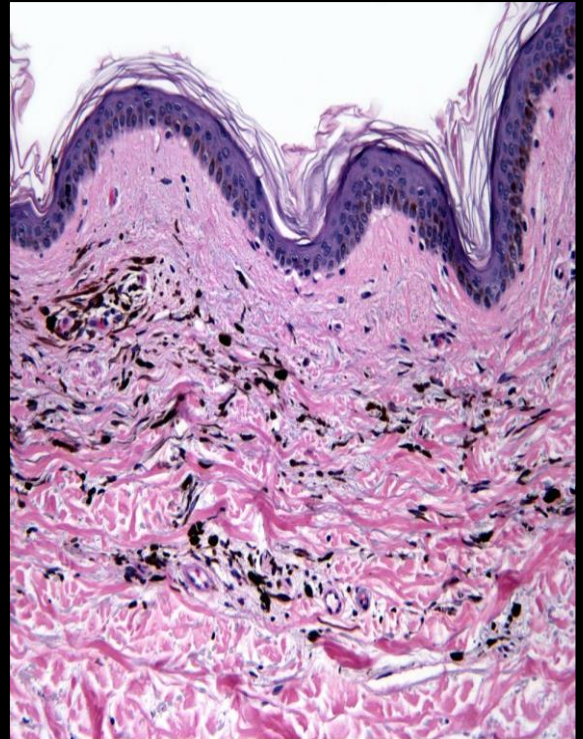
OSPE 49

A patient presented to the clinic with the above clinical presentation and histopathological findings.

A. Identify the condition

B. How will you treat the patient?

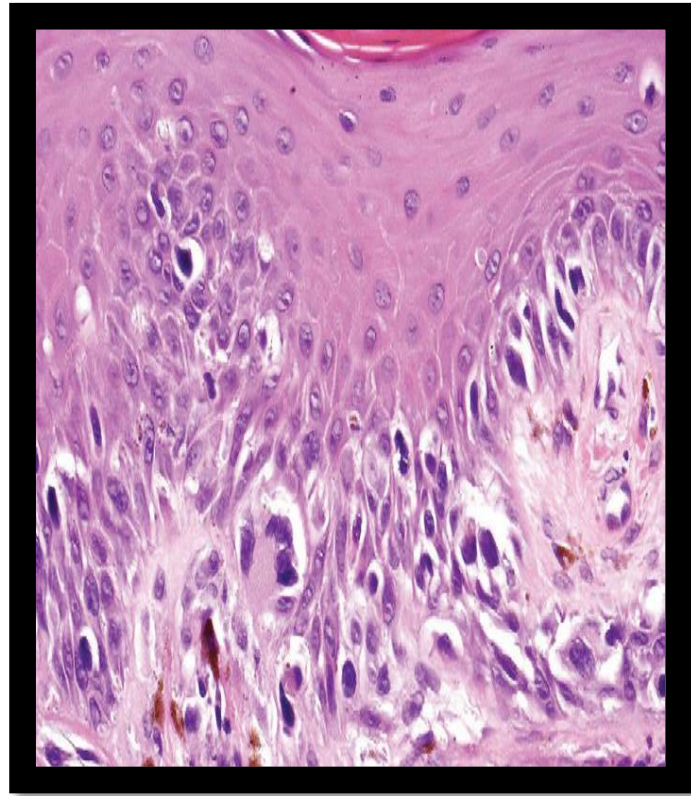
OSPE 50



A patient presented to the clinic with a dome shaped papule on his palate.

A. Identify the condition

B. Identify the most prominent feature on the histological slid

OSPE 51

A 55 year old Japanese male presented with the lesion on the palm of the hand

- A. Identify the section.
- B. List the histological features.

OSPE 52

A patient presented to the clinic with a limited mouth opening and stiffness. He had a history of betel nut chewing since 5 years. The above intraoral picture was revealed.

A. Identify the condition

B. What is its histopathology?

OSPE 53

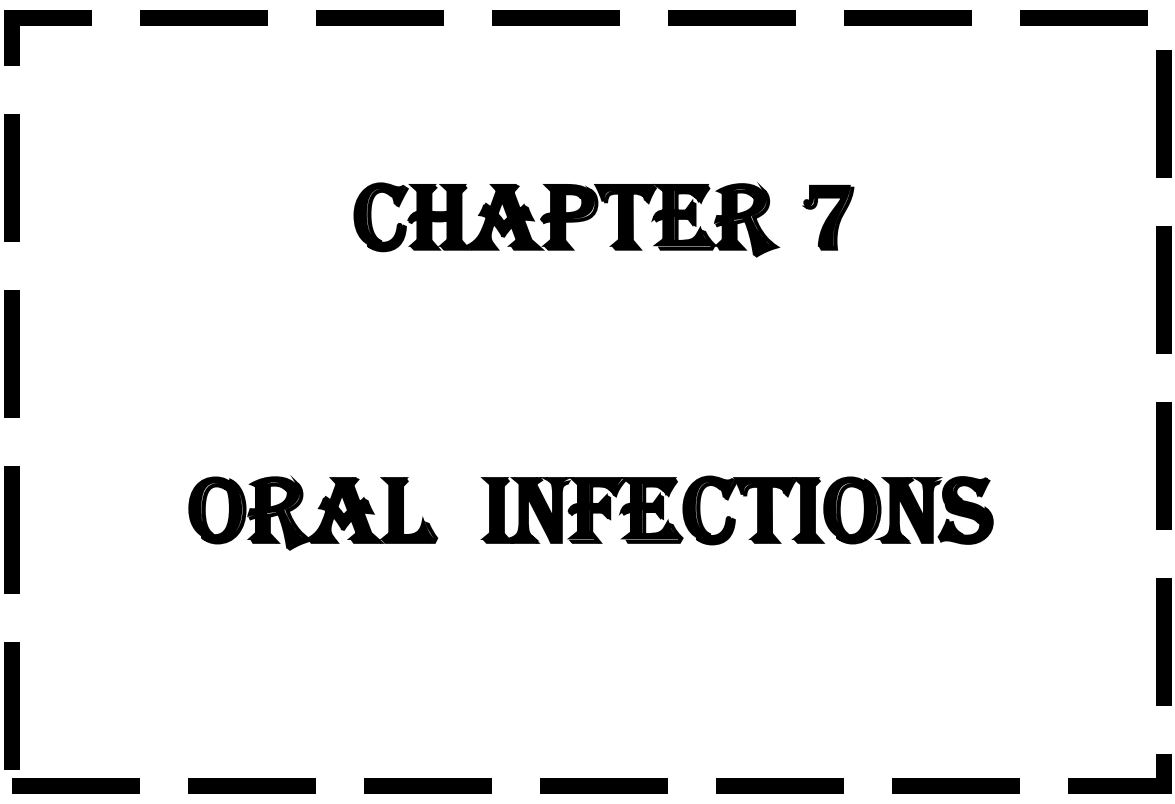
A 14 year boy presented with multiple freckle like lesions on peri-oral skin and lips. He is under the treatment of a gastroenterologist for intestinal problems.

- A. What is your most probable diagnosis?
- B. What are the main features of this disease?

OSPE 54

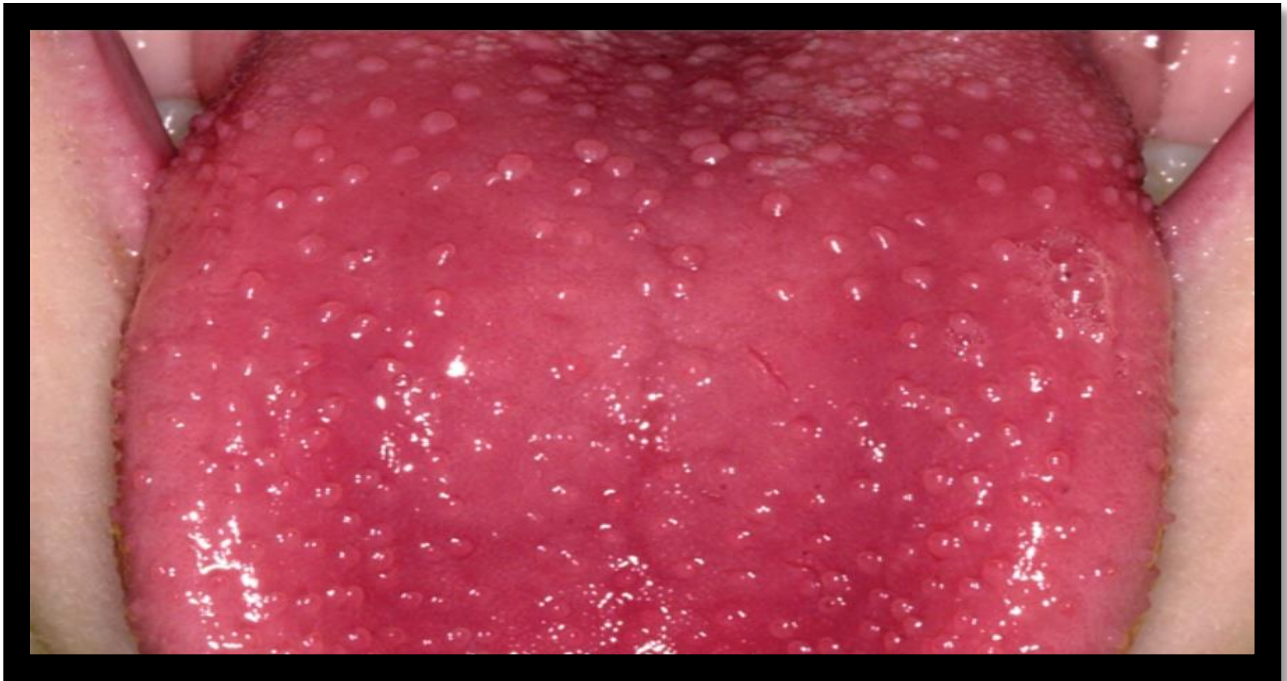
A patient presented the clinic with a wrinkled appearance of his Buccal mucosa. The patient revealed that he was a chronic tobacco chewer. The above clinical picture was revealed.

- A. Identify the condition
- B. Give its histopathological features?



CHAPTER 7

ORAL INFECTIONS

OSPE 55

A 10 year old patient complains of mild fever with vesicles on the soft palate. On intraoral examination you saw this clinical picture.

- A. Identify this lesion and the disease it is related to?
- B. Give the points of identification.

OSPE 56

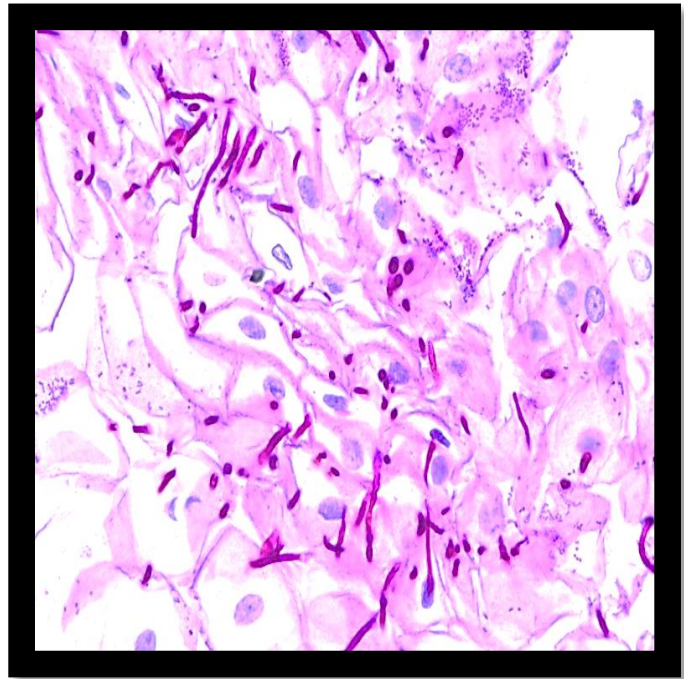
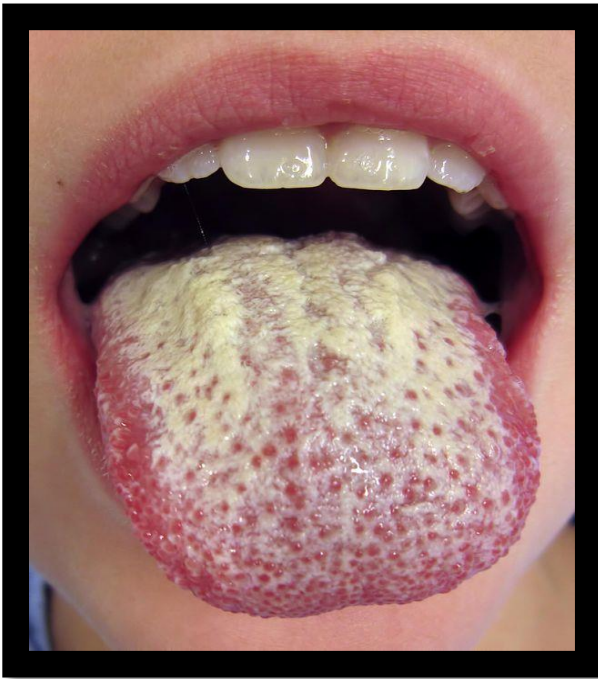
A patient was presented to the clinic with unilateral vesicular eruption on the face. The above clinical picture was revealed.

- A. Identify the condition
- B. Name the causative agent

OSPE 57



- A. Identify the clinical presentation?
- B. What microorganisms are involved?

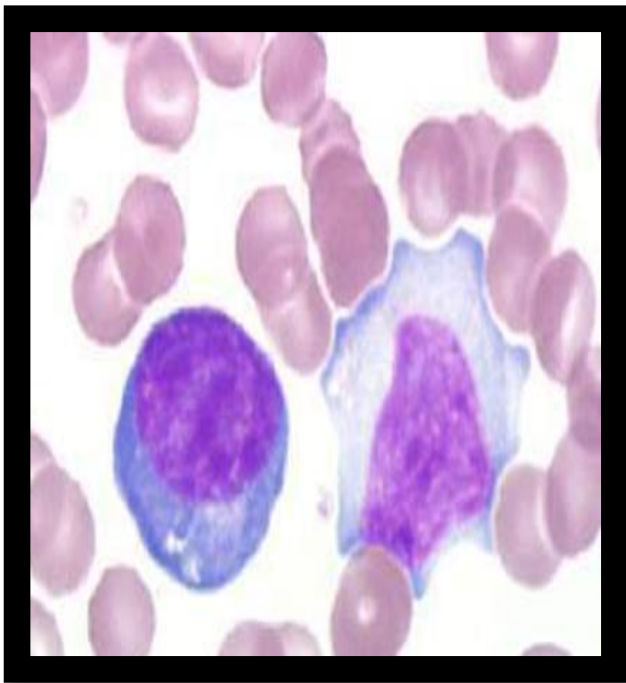
OSPE 58

A white lesion was observed on dorsal surface of tongue in a patient. On scrapping an erythematous raw surface was observed. Biopsy specimen was taken and sent to lab for microscopic examination.

A. What is your most probable diagnosis

B. Enlist the main predisposing factors for this condition?

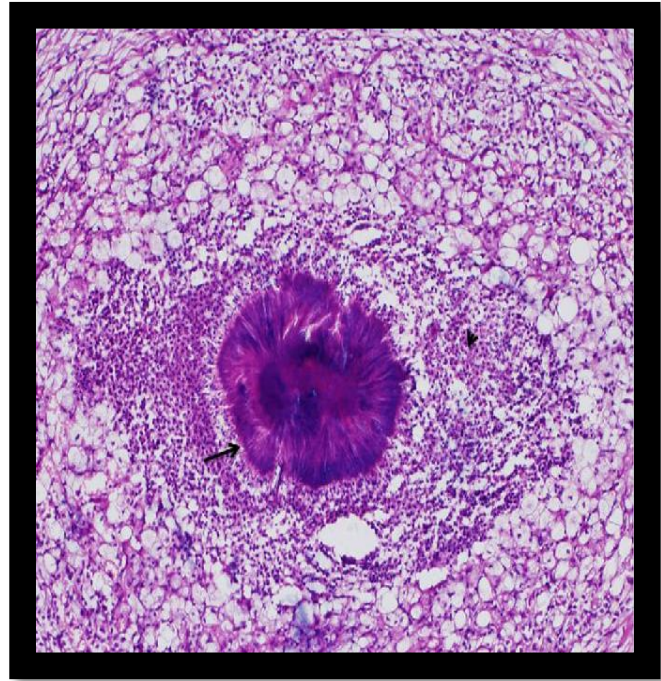
OSPE 59



Patient presents with lymphadenopathy, malaise, pharyngitis, fatigue, fever, hyperplastic tonsils and thrombocytopenia. Tissue from the tonsils was sent for histopathological examination and the above given picture was observed.

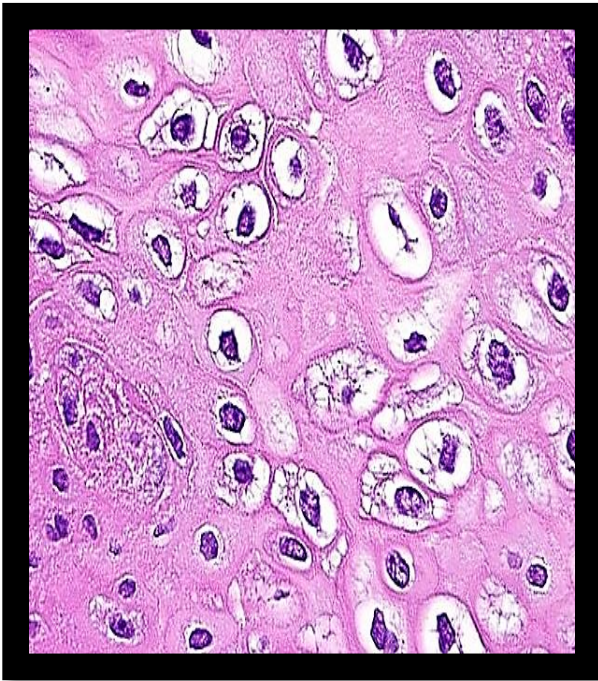
A. Identify the cell?

B. Name the other diagnostic tests that can be used.

OSPE 60

A patient presented to you with a lesion with pus draining from it since last 5 days. On examination a draining sinus was observed.

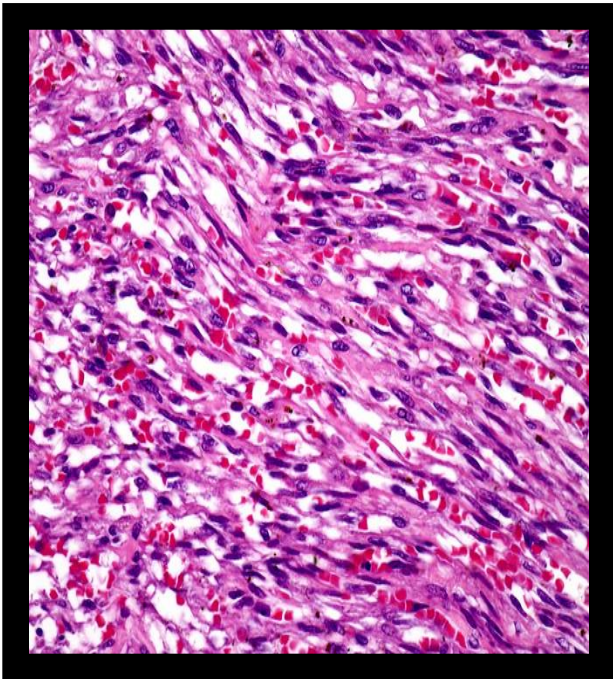
- A. Identify the lesion?
- B. Briefly describe its histopathology.

OSPE 61

A patient presented with pinkish plaques with a pebbled surface on the oral mucosa. Intraoral examination revealed the above findings.

A. Identify the condition

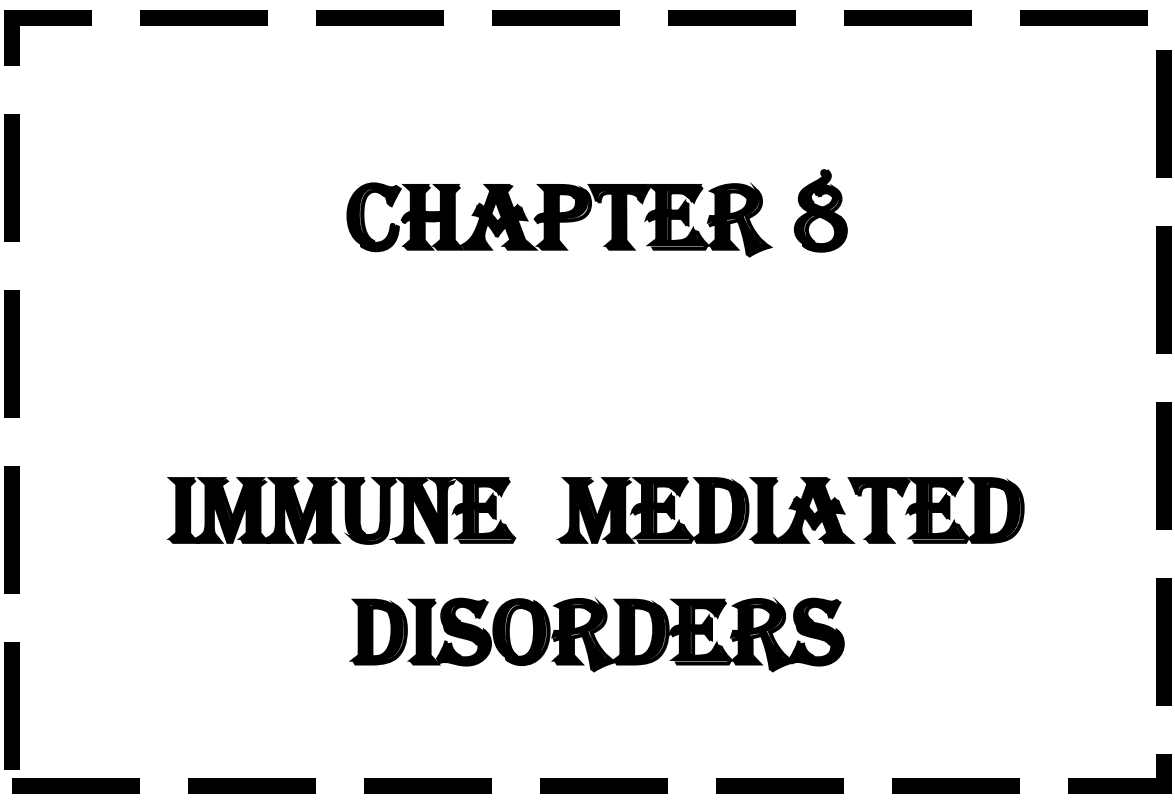
B. Name one pathognomonic histopathological feature

OSPE 62

A patient presented to the clinic with a purplish nodular lesion on the palate. Further medical history revealed that the patient was a diagnosed case of AIDS. The above clinical picture was revealed

A. Identify the condition

B. Name one more condition with a similar clinical presentation.



CHAPTER 8

IMMUNE MEDIATED DISORDERS

OSPE 63

A 45 year old female presented to the clinic with a deep red nodular lesion in the interdental papilla. Medical history revealed that the patient suffered from sinusitis and also had arthritis.

A. Identify the condition.

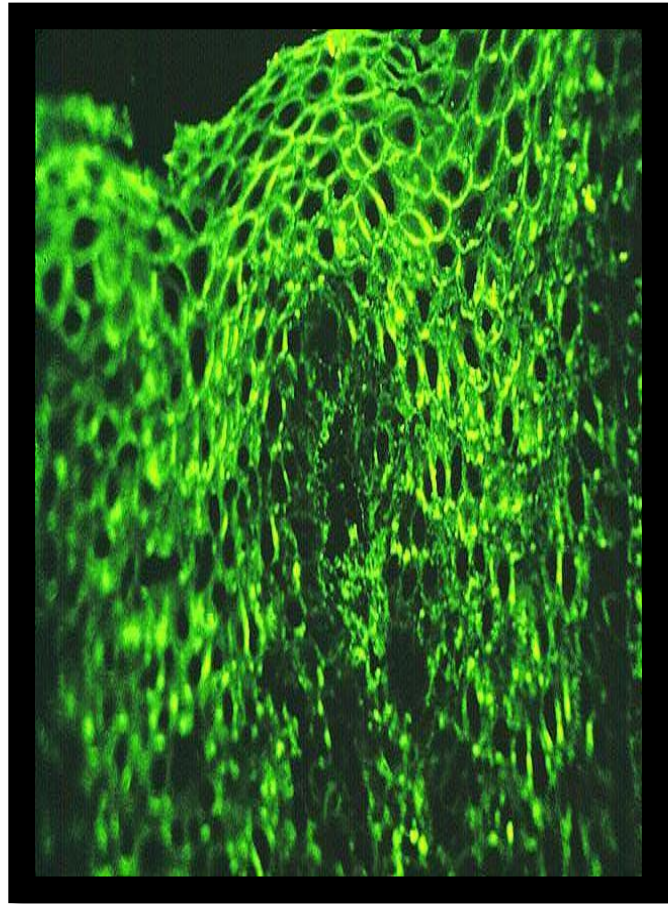
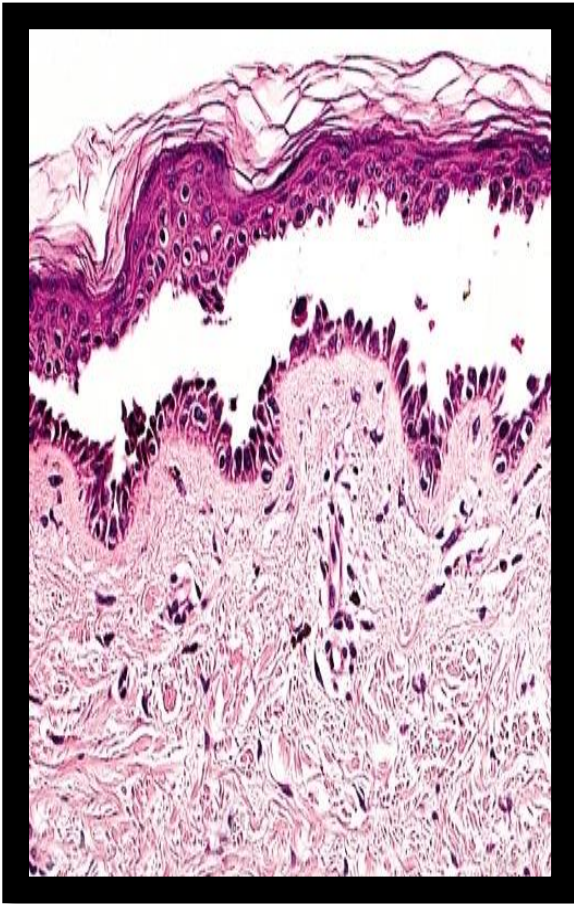
B. Identify the gingival lesion in the picture above.

OSPE 64

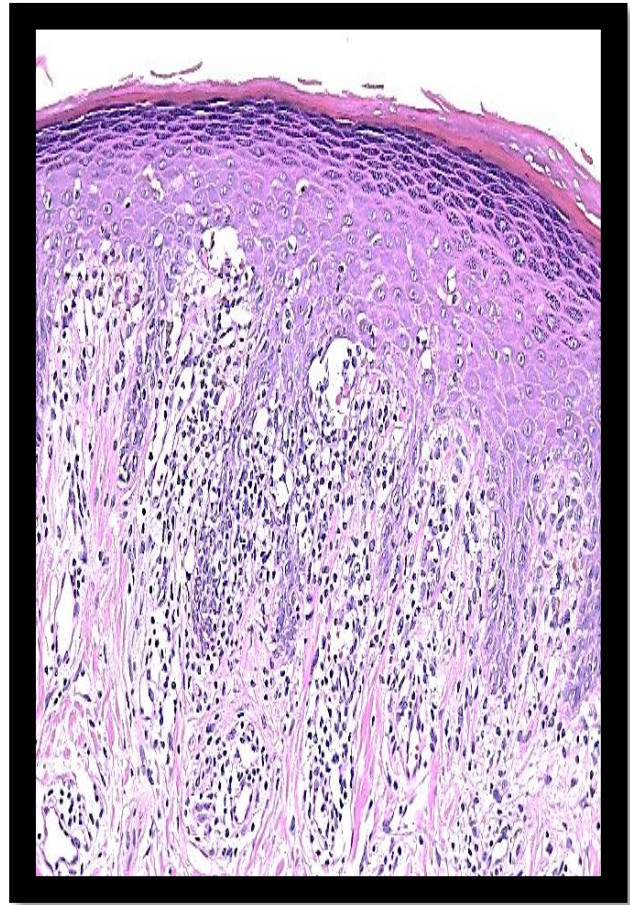
A 35 year old male was treated for upper respiratory tract infection with broad spectrum antibiotics. After a week patient presents with multiple erythematous and vesicular eruptions on the skin and oral mucosa.

- A. What is your diagnosis?
- B. Write down any other predisposing factors?

OSPE 65



- A. Explain the given histopathology.
- B. What is this immunofluorescence pattern known as?
- C. It is diagnostic for which lesion?
- D. Name the antigen and the antibody involved in this lesion?

OSPE 66

The histopathological picture of specimen shows hyperplasia, long rete pegs and chronic inflammatory cells. The patient was under treatment of neuro-physician for cerebral palsy.

- A. What is your most probable diagnosis?
- B. What could be the causative factor of this condition?
- C. Name the most prominent clinical feature.

OSPE 67

A patient presented to the OPD with a few ulcers on the mucosal surface of the lip. The complaint of pain was out of proportion of the size of the ulcer.

- A. Identify the condition.
- B. How will you treat the patient?

OSPE 68



A patient reported to the emergency with a swelling of lower lip and difficulty in breathing. The patient was on antibiotic therapy.

- A. Identify the condition.
- B. What antibiotics can cause it.

OSPE 69



A. Identify the rash

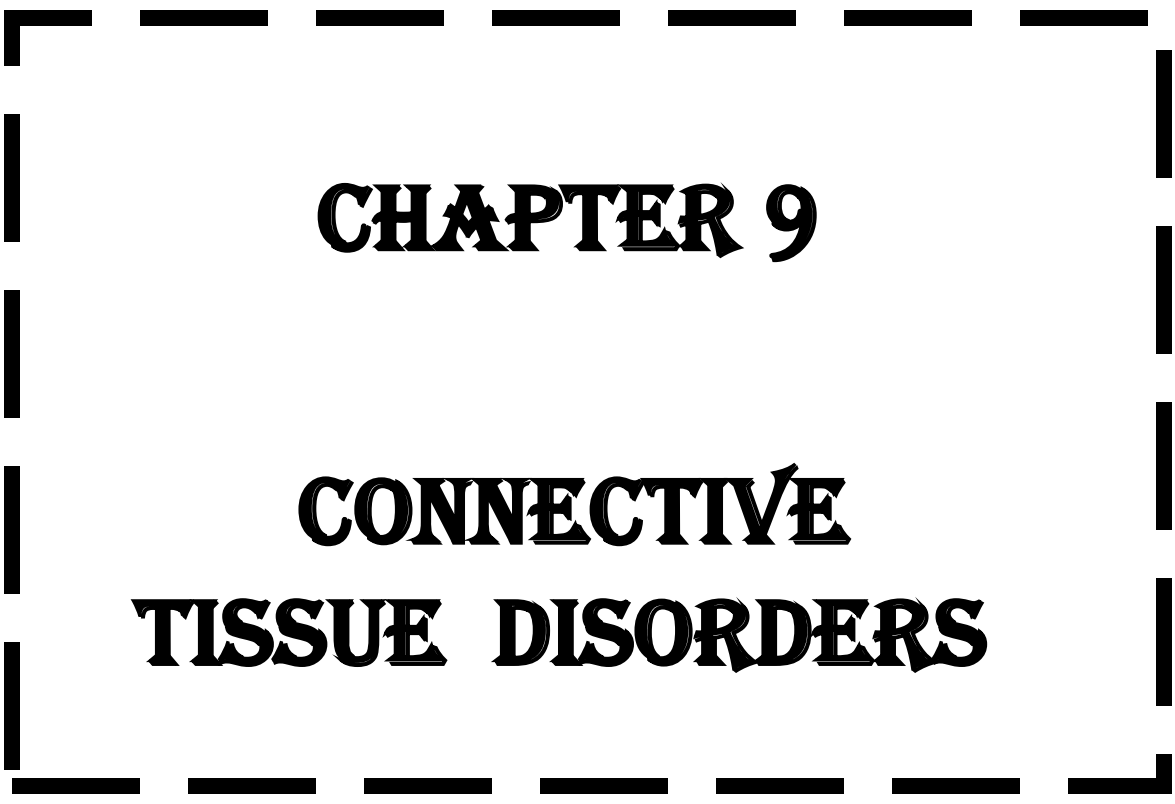
B. What is it found in association with?

OSPE 70



A. Describe/name the clinical presentation

B. Name the condition this clinical presentation is associated with



CHAPTER 9

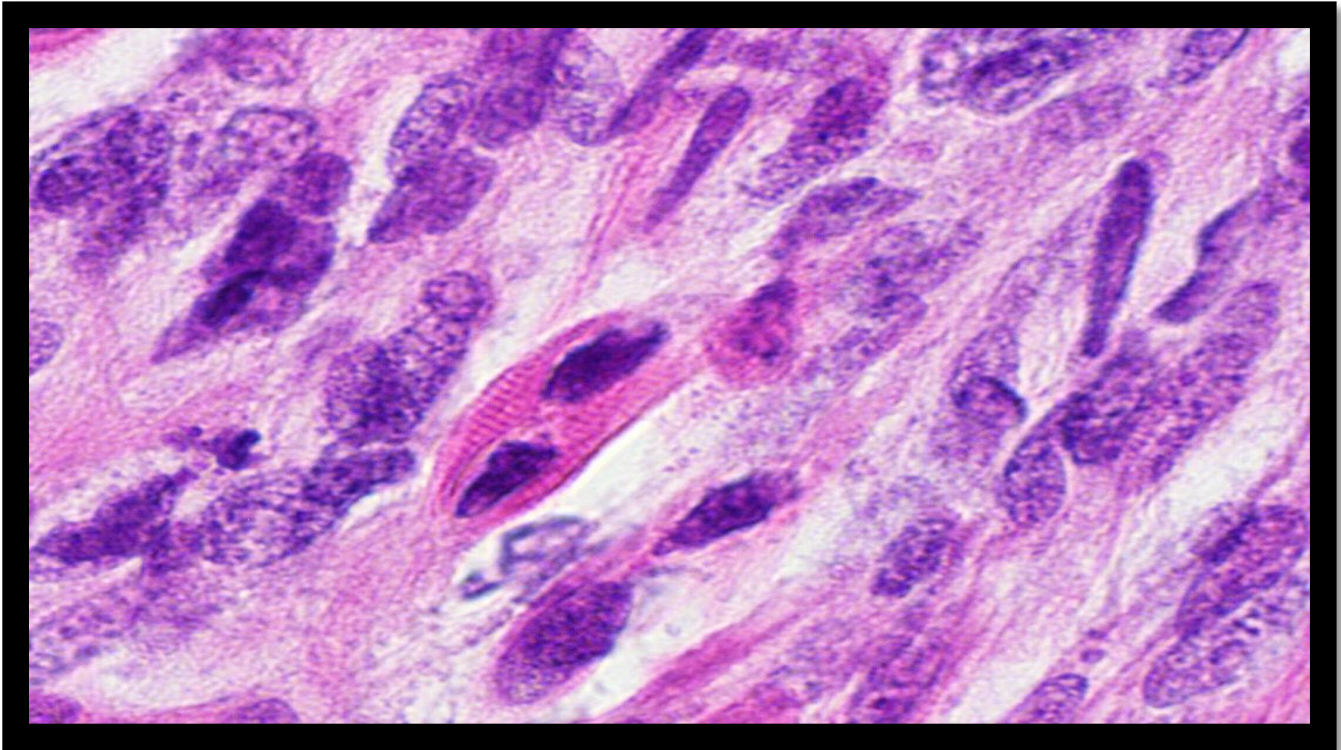
CONNECTIVE TISSUE DISORDERS

OSPE 71

A 54 year old patient presented to the dental clinic with gingival mass which was irritating to his denture wear.

A. Identify the lesion?

B. Give identification points of this lesion?

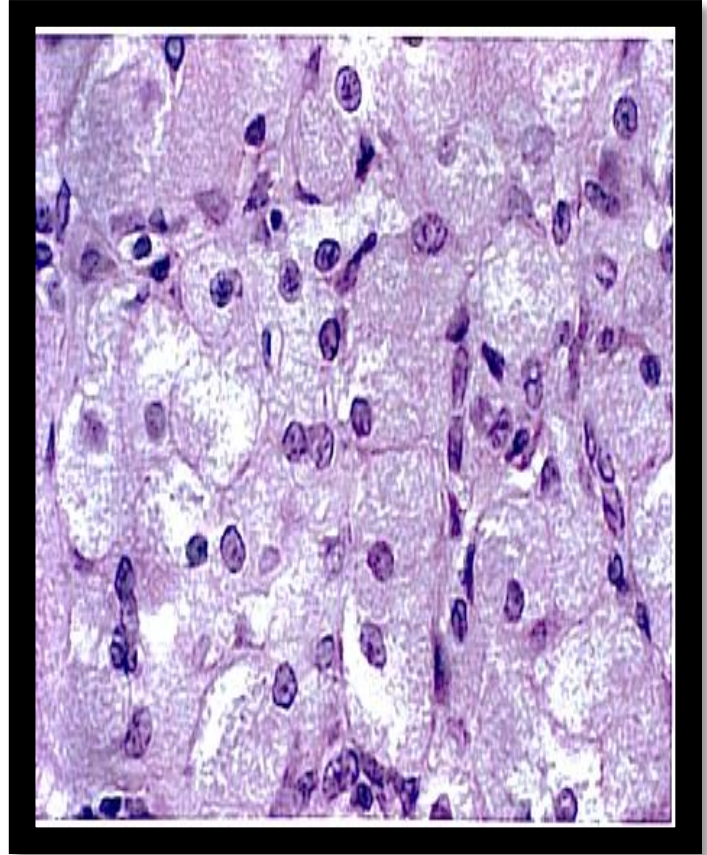
OSPE 72

An 8 year old boy came to your dental clinic with intraoral swelling which involved the nose and extended towards the eye as well. Biopsy reveals neoplastic strap shaped cells as given in the above section.

A. Identify the expansile lesion.

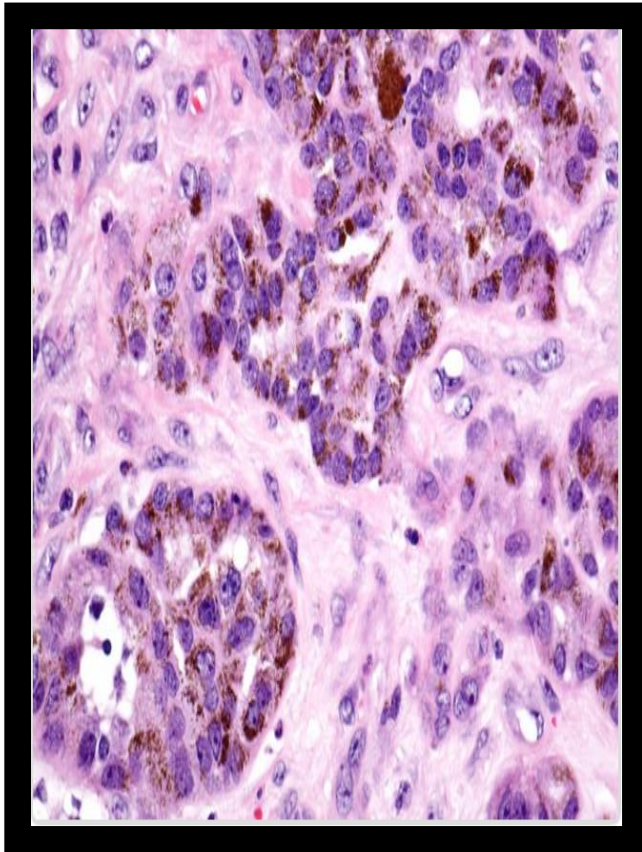
B. Give its histopathology.

OSPE 73



Carefully see the clinical picture and answer the following question:

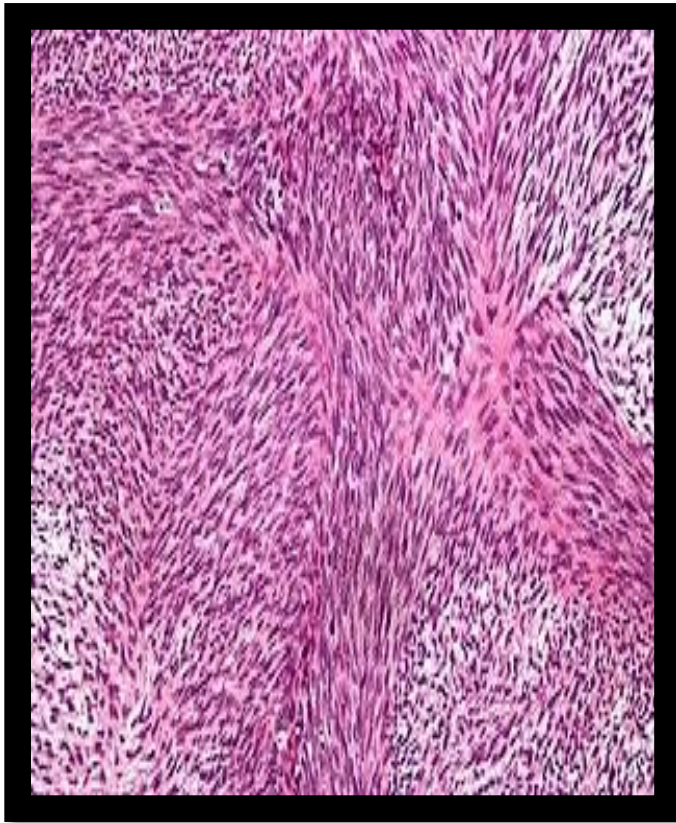
- A. Identify the histopathology of this mass seen in a new born.
- B. Give the identification points.

OSPE 74

A 5 months old boy presents with an expansile mass of anterior maxilla. A radiolucent destructive lesion is seen along with displaced and embedded teeth.

A. Identify the lesion?

B. Give other common oral connective tissue lesions of this age group?

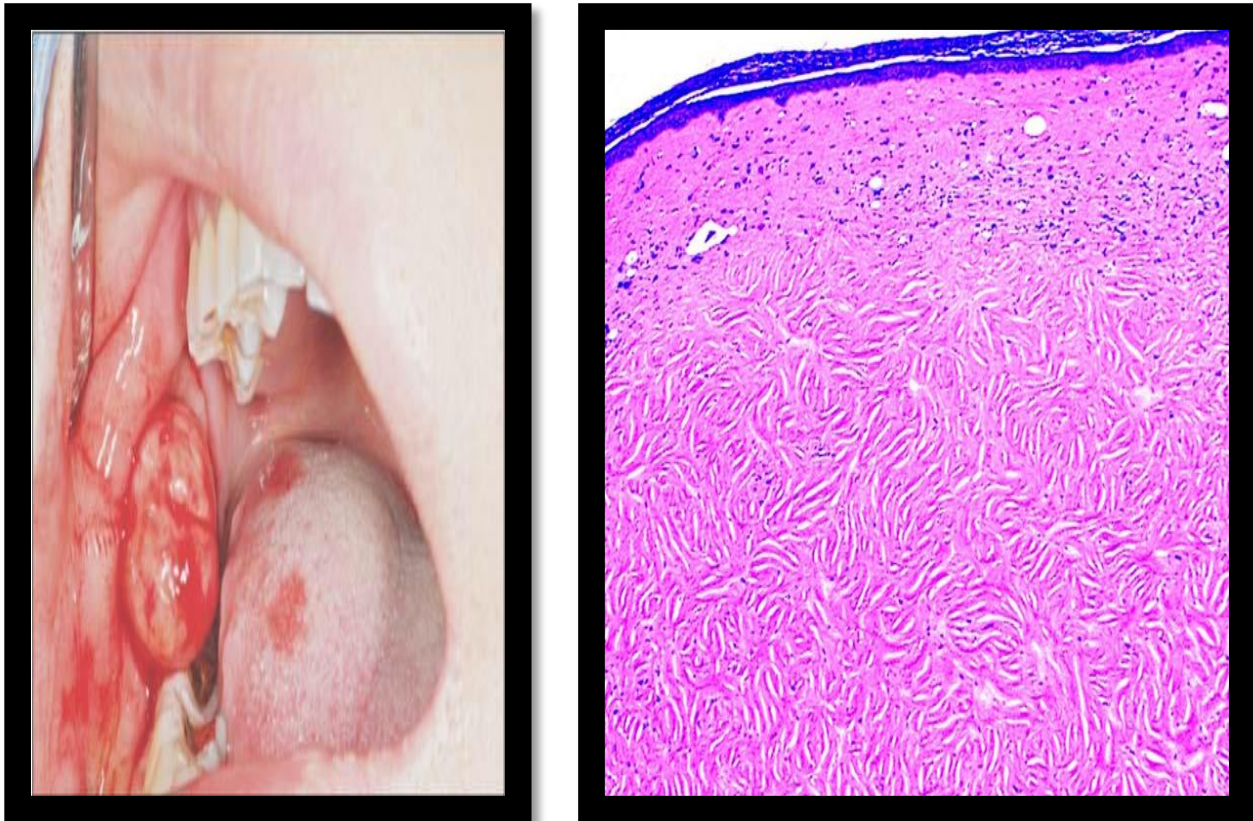
OSPE 75

A patient presented to the clinic with a firm ulcerated swelling in his maxilla. Histopathological evaluation revealed the above findings.

A. Identify the condition

B. Identify the characteristic feature of the slide above

OSPE 76

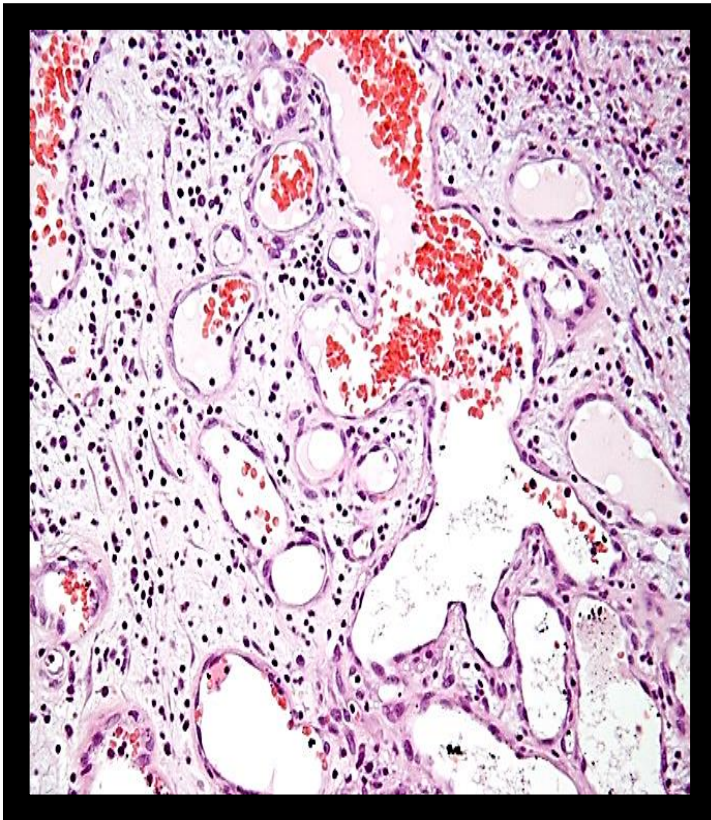


A patient presented to the clinic with a solitary nodule on her skin. The above histopathological findings were revealed.

A. Identify the condition

B. Name the pathognomonic feature of the slide above.

OSPE 77



A patient presents with the gingival swelling which is painless and grows slowly. Excisional biopsy reveals the above picture:

- A. Identify the lesion in slide.
- B. Give identification points.

OSPE 78

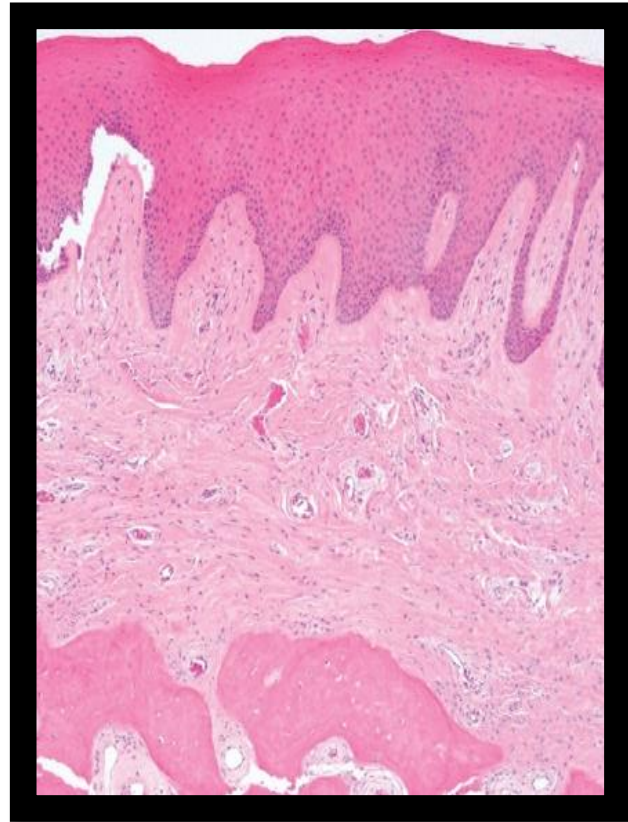


A patient was presented to the clinic with a purplish multinodular lesion on his tongue.

A. Identify the condition

B. What is a varix?

OSPE 79

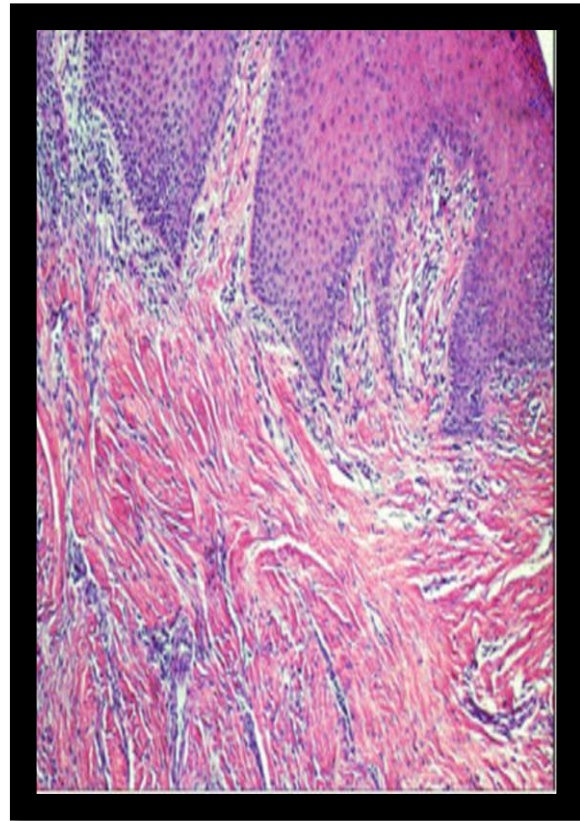


A 40 year old female presents to you with an epulis that seems to be emerging from the interdental papilla. The surface is smooth and of normal coloration. The mass is hard on palpation and fixed to the underlining tissue.

A. What is your differential diagnosis?

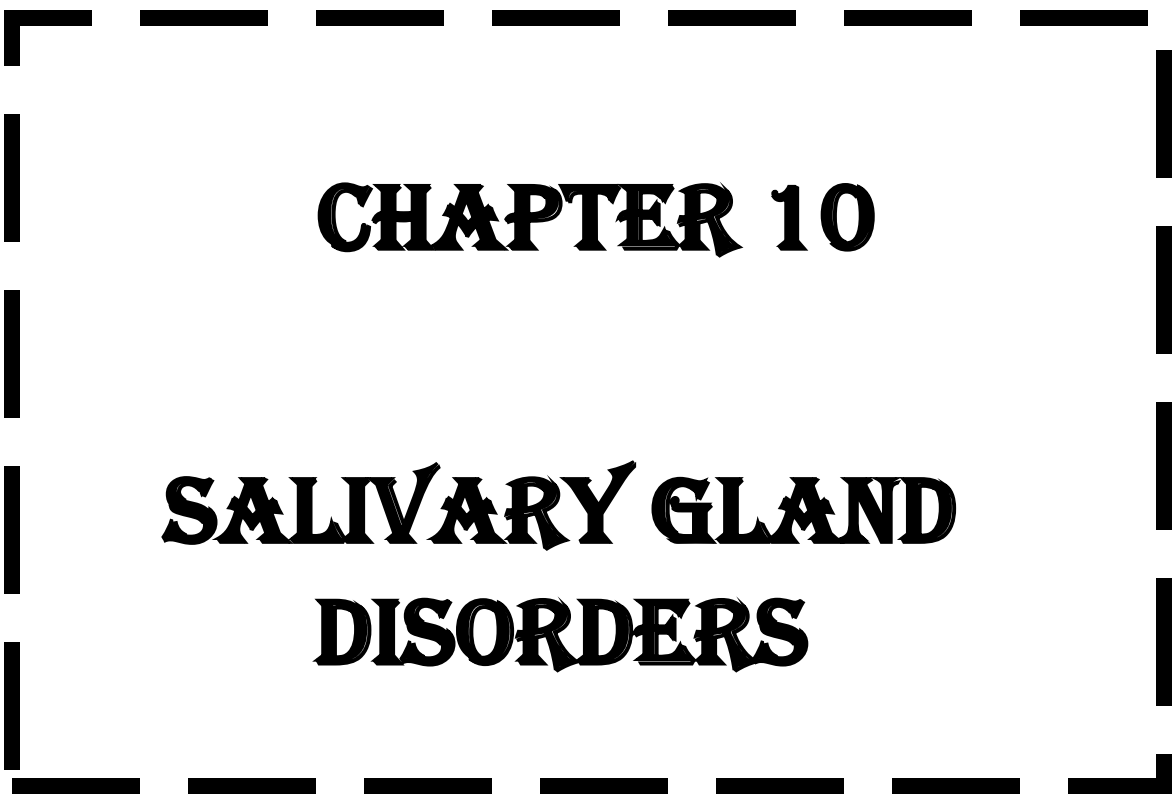
B. What is your definite diagnosis by looking at the histopathology?

OSPE 80



A patient presented to the clinic with a complaint of overgrowth of his gingiva. Further medical history revealed the patient to have corneal dystrophy and deafness. The above clinical and histopathological pictures were revealed.

- A. Identify the condition
- B. How will you treat the patient?



CHAPTER 10

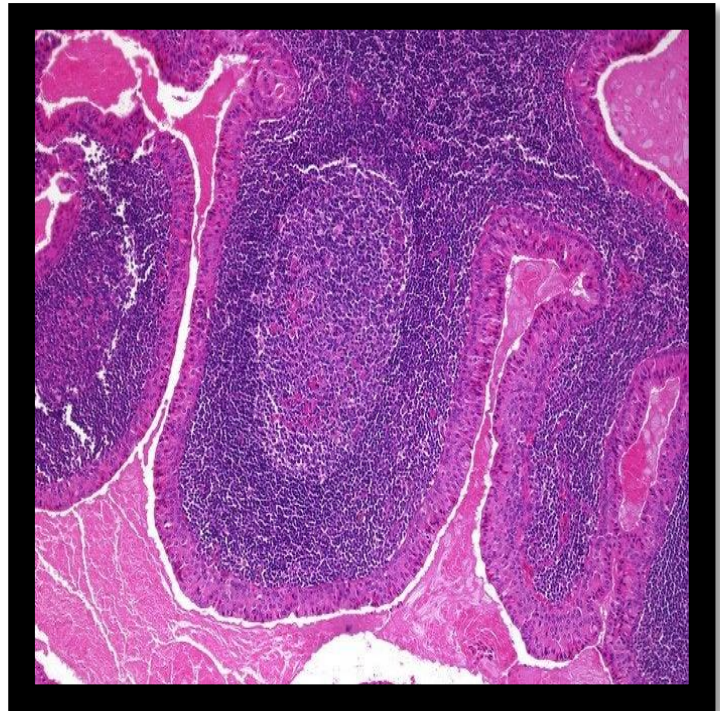
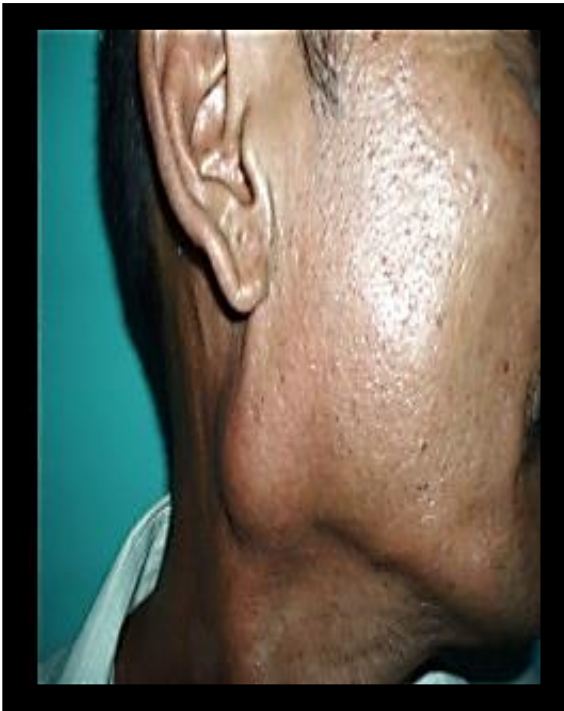
SALIVARY GLAND DISORDERS

OSPE 81

A patient presented to the clinic with a swelling in the pre auricular area. Further medical history revealed the patient had undergone radiation therapy for cancer in the neck region. Sialography revealed the above picture.

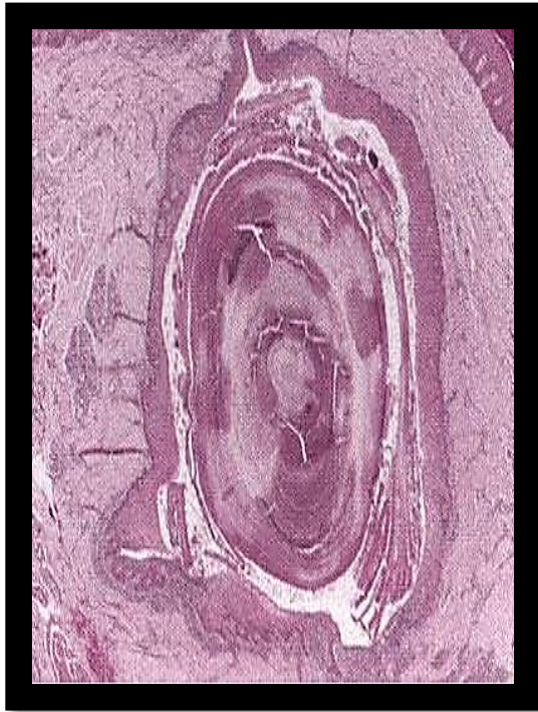
A. Identify the condition

B. Give the interpretation of the sialogram given above

OSPE 82

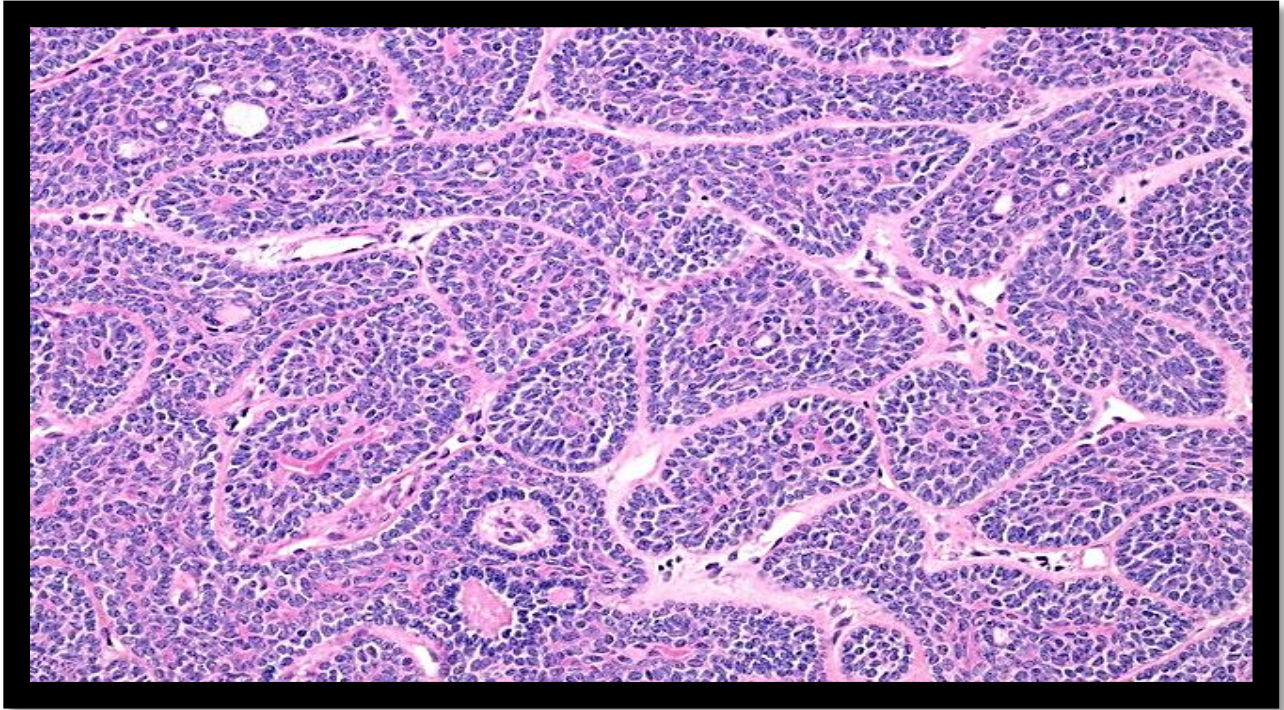
An old age patient presented with the swelling on the angle of mandible which was painless. Biopsy revealed the above section

- A. Identify the lesion
- B. Give its pathognomonic histology

OSPE 83

A patient presented to the clinic with a swelling in the submandibular area. The patient reported pain in the area of the swelling at meal times. The above radiographic findings were revealed.

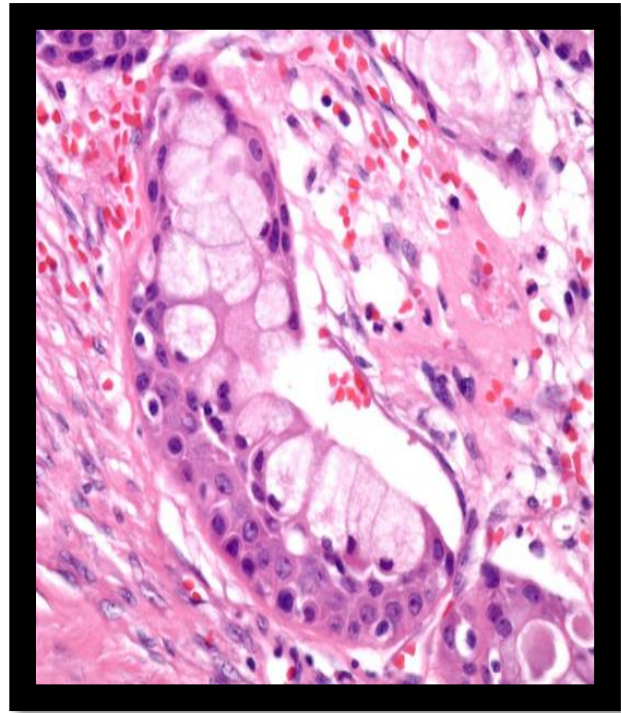
- A. Identify the condition
- B. Name the gland most commonly involved.

OSPE 84

A patient presented to the clinic with a movable swelling in the pre-auricular area.

A. Identify the condition

B. Give one pathognomonic histopathological feature

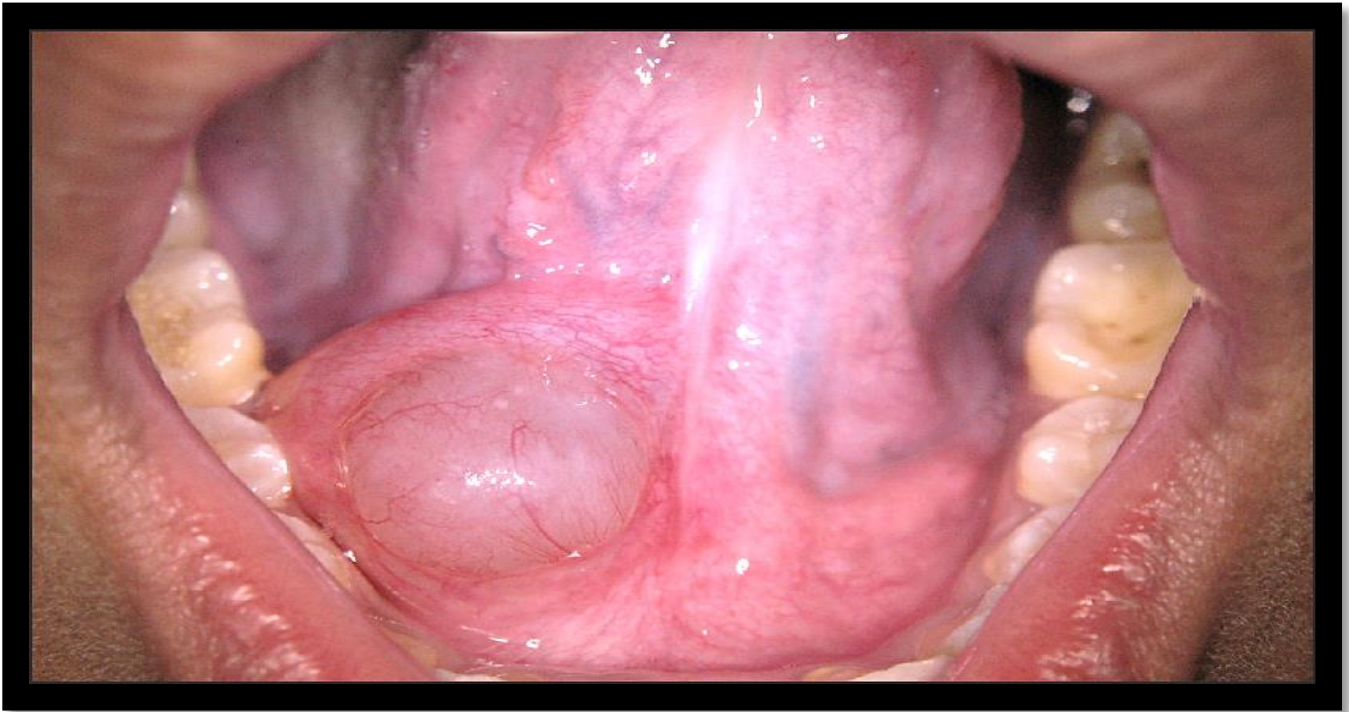
OSPE 85

A 70 year old male presented to the clinic with a fluctuant swelling on his palate that resembled a mucocele. Biopsy revealed the above findings.

A. Identify the condition

B. Give its pathognomonic histopathological feature

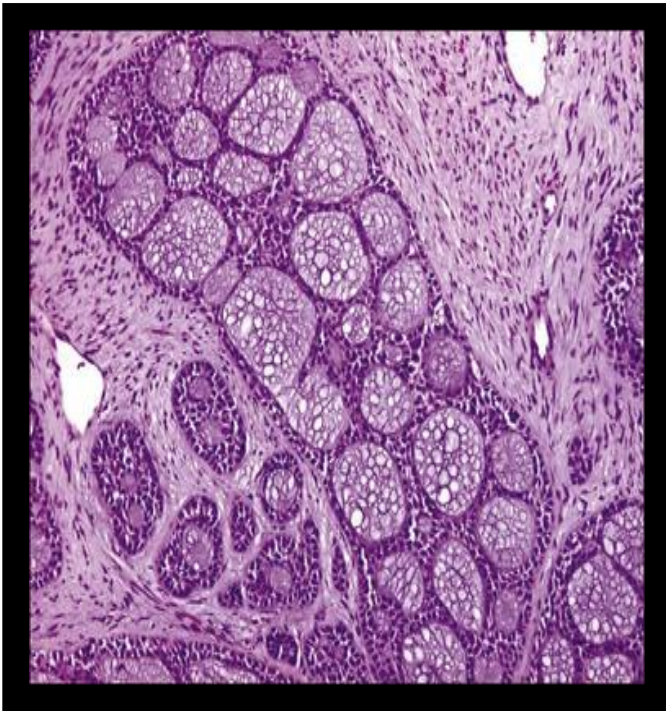
OSPE 86



A patient presented to the clinic with a fluctuant mass off the midline in the floor of the mouth.

A. Identify the condition

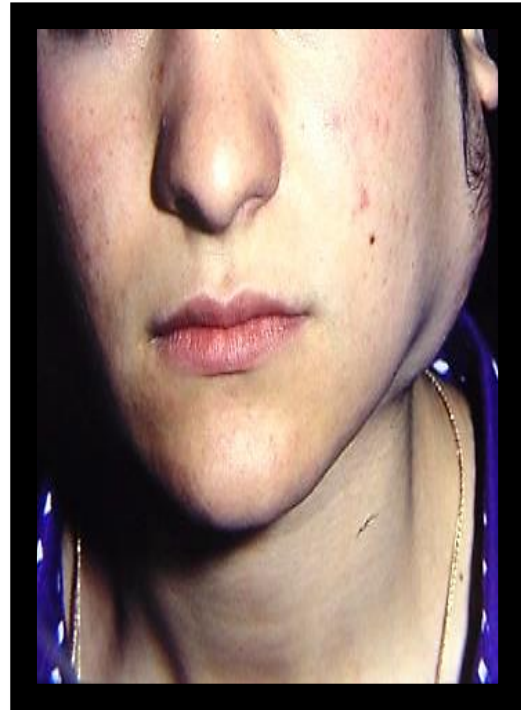
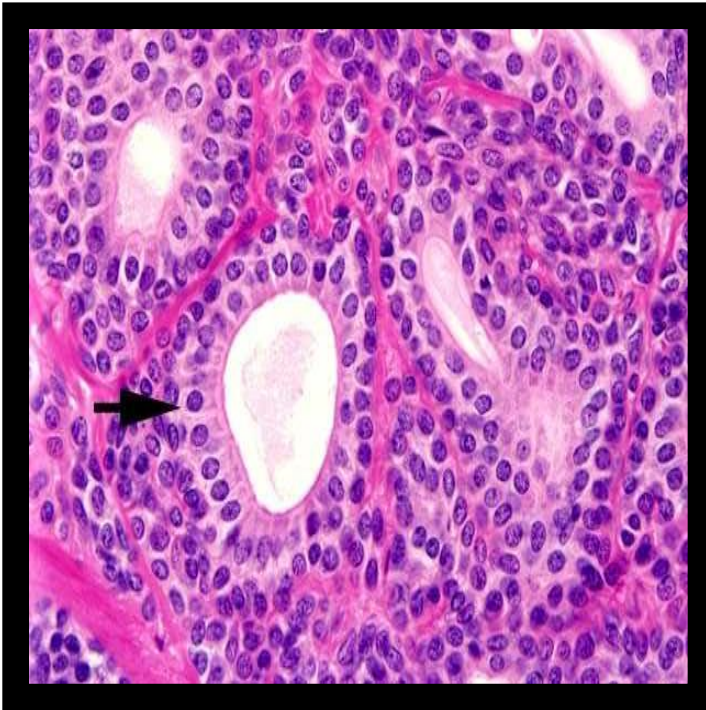
B. Give its treatment

OSPE 87

A 60 year old female presented to the clinic with a swelling on her palate. Histopathological evaluation revealed the above findings.

A. Identify the condition.

B. Name the pathognomonic histopathological feature.

OSPE 88

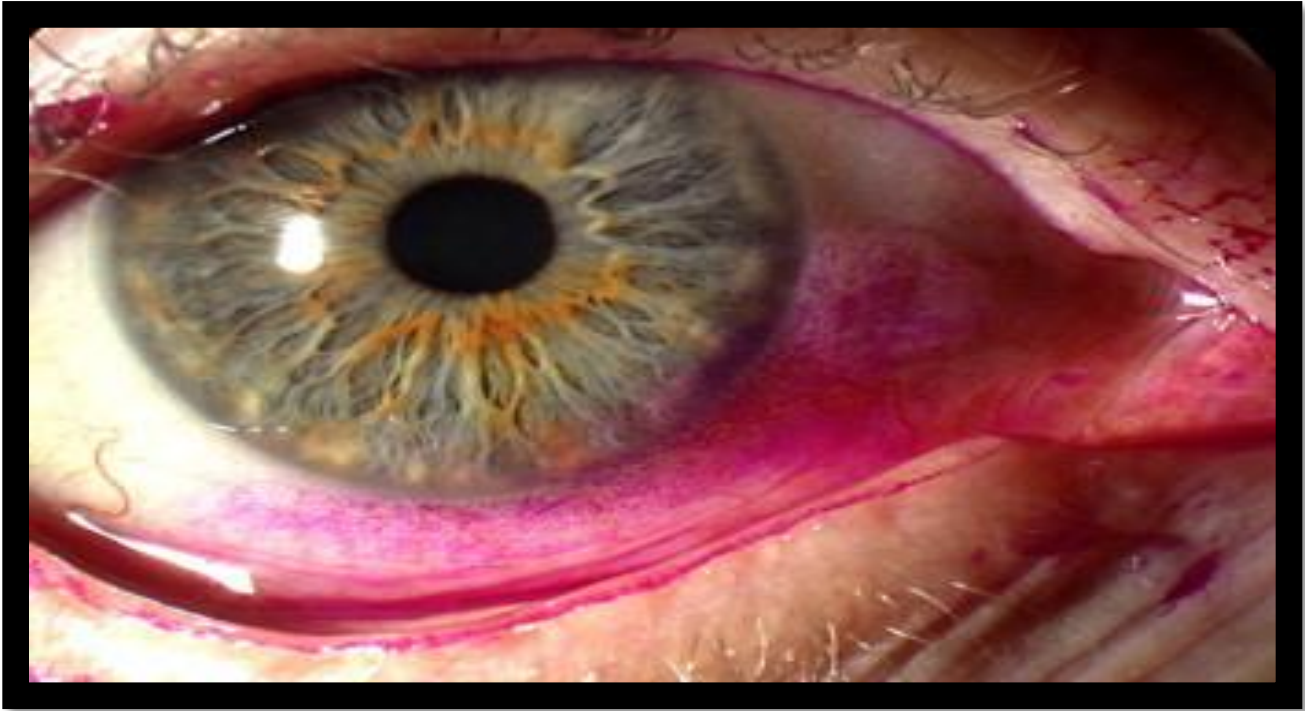
A middle age female presents to you with a swelling anterior to the ear. It is a painless slowly growing mass which is solitary and well demarcated and doughy on palpation.

A. Give your diagnosis.

B. Give histological points of identification.

OSPE 89

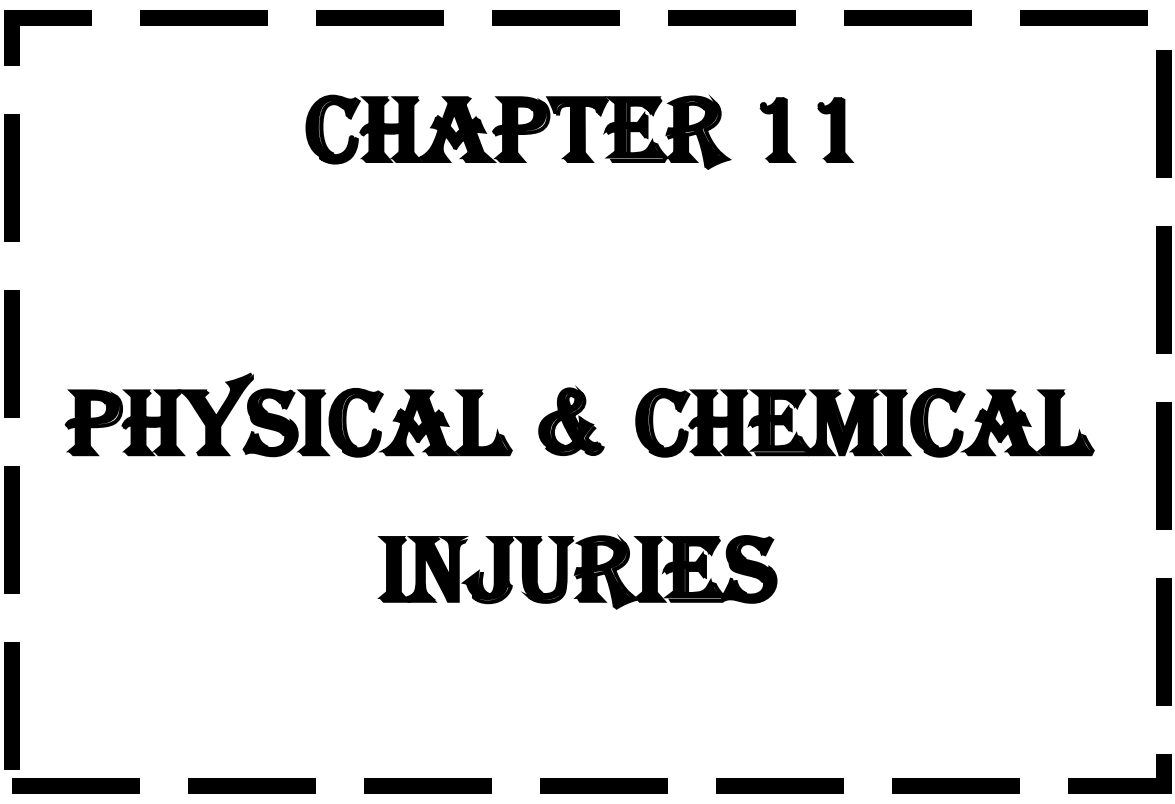
- A. You observe a mobile swelling on the lower lip, identify the clinical presentation?
- B. What are the histological points of identifications at E, G and M points?
- C. Name one neoplastic lesion that resembles this condition.

OSPE 90

A patient presented to the clinic with a complaint of dry eyes and dry mouth. He was subjected to a test and the following picture was revealed.

A. Identify the test

B. How will you interpret the results?



CHAPTER 11

PHYSICAL & CHEMICAL INJURIES

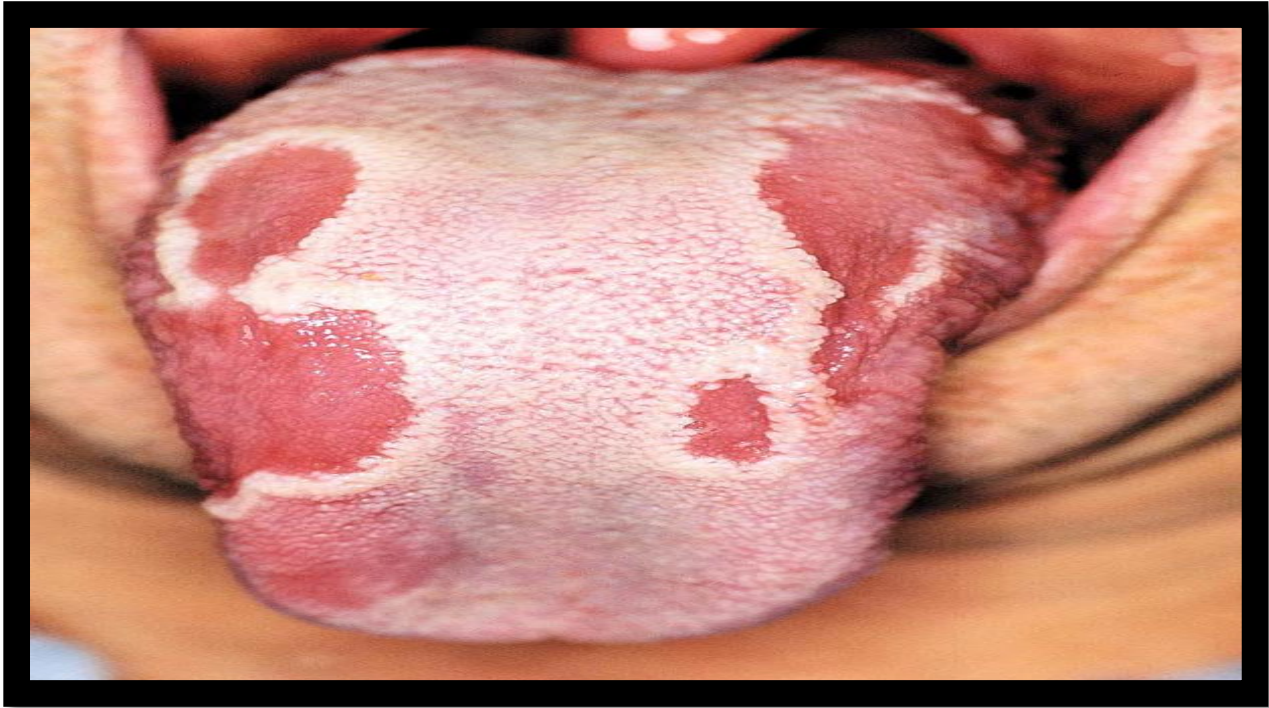
OSPE 91



A 30 years old patient presented to the dental clinic for the evaluation of brown colored tongue and foul smell.

A. Identify the condition

B. Explain the reason of discoloration

OSPE 92

A 40 years male patient presented to the dental clinic for the evaluation of his tongue showing multiple irregularly shaped erythematous patches with accurate white rims which changed shape daily.

- A. Identify the condition
- B. Give one histopathological feature

OSPE 93



A. Identify the condition

B. What is Gilles de la Tourette syndrome?

OSPE 94

A 50 year old patient presented to the clinic with multiple carious teeth. The following clinical picture was revealed. Medical history revealed that the patient is undergoing treatment for cancer.

- A. Identify the condition
- B. How will you treat the patient?

OSPE 95

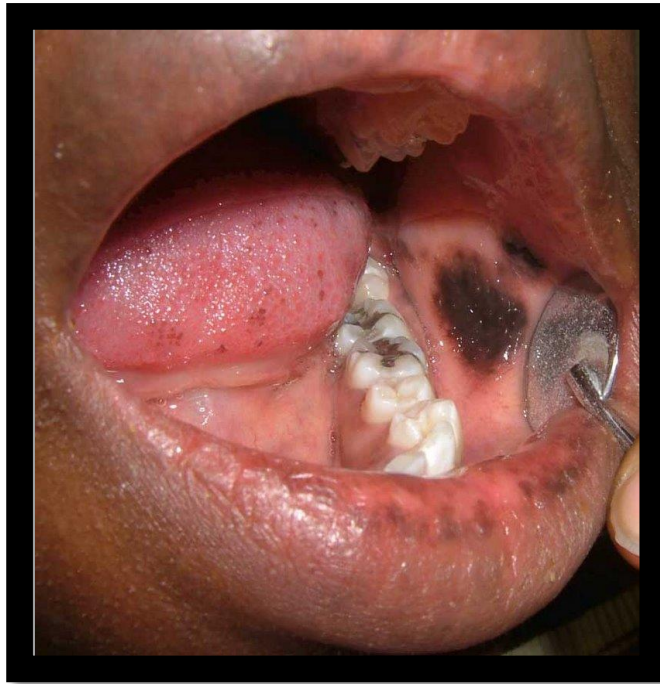
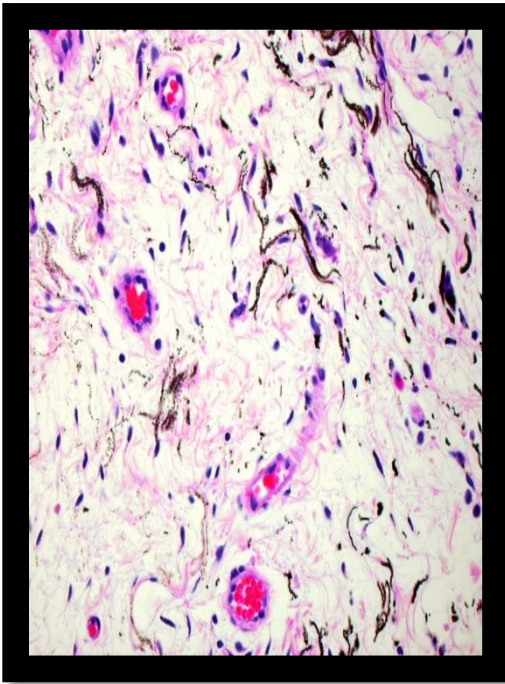
A 16 year old girl presented to the clinic with the above clinical presentation. She is a diagnosed case of Bulimia Nervosa.

- A. Identify the condition.
- B. What is the underlying cause in this case?

OSPE 96

A 40 year old man presented to the clinic with the above clinical presentation. Medical history revealed him to be a diagnosed case of Obsessive Compulsive Disorder(OCD).

- A. Identify the condition
- B. What is the underlying cause?

OSPE 97

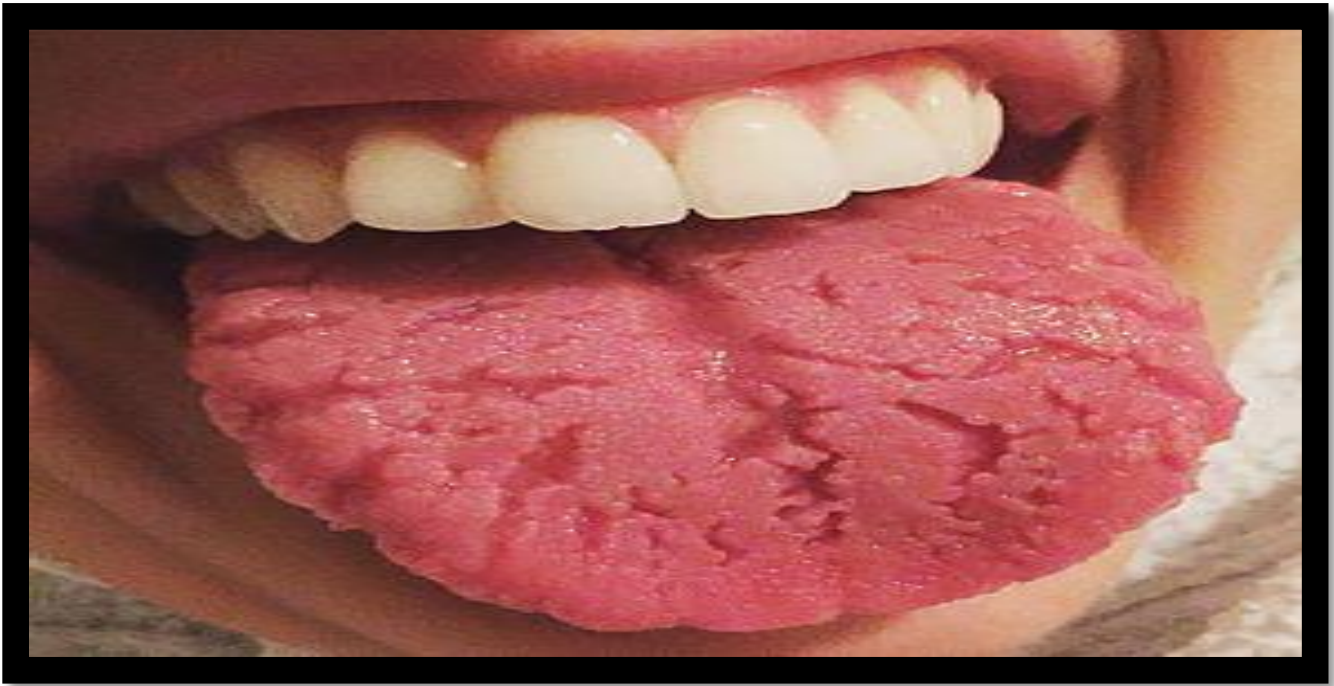
A pigmented lesion was observed on the buccal mucosa of a patient. He had history of dental treatment many years ago and there was no pain or swelling in that area.

- A. What is your most probable diagnosis?
- B. What are different causes of mucosal pigmentation?

OSPE 98

A patient presented to the clinic with a pink spot on his crown. The tooth is otherwise asymptomatic.

- A. Identify the condition
- B. Give one distinctive radiographic feature.

OSPE 99

A 60 year old male presents to you with a chief complaint of burning sensation on spicy food intake. On intraoral examination you observe the tongue to have multiple creases.

A. Give your diagnosis?

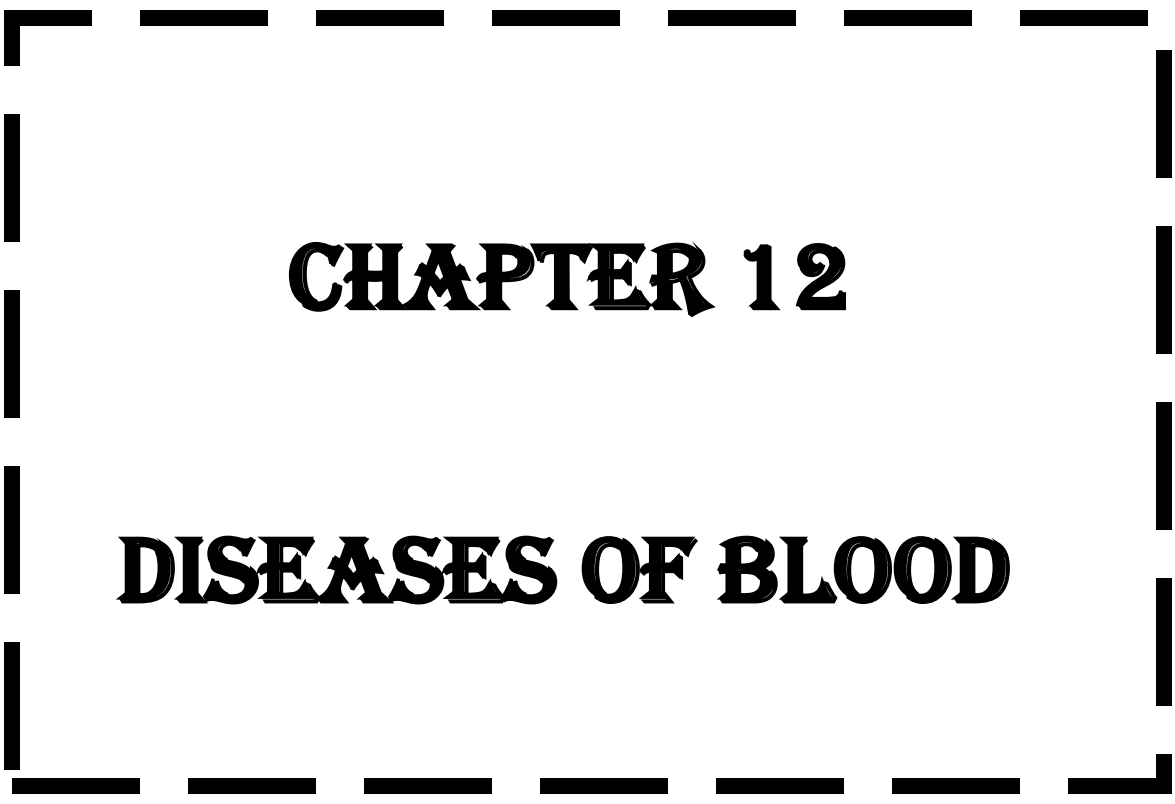
B. Enlist different conditions associated with this condition?

OSPE 100



A 6 year old boy presented to the clinic with a green discoloration of teeth

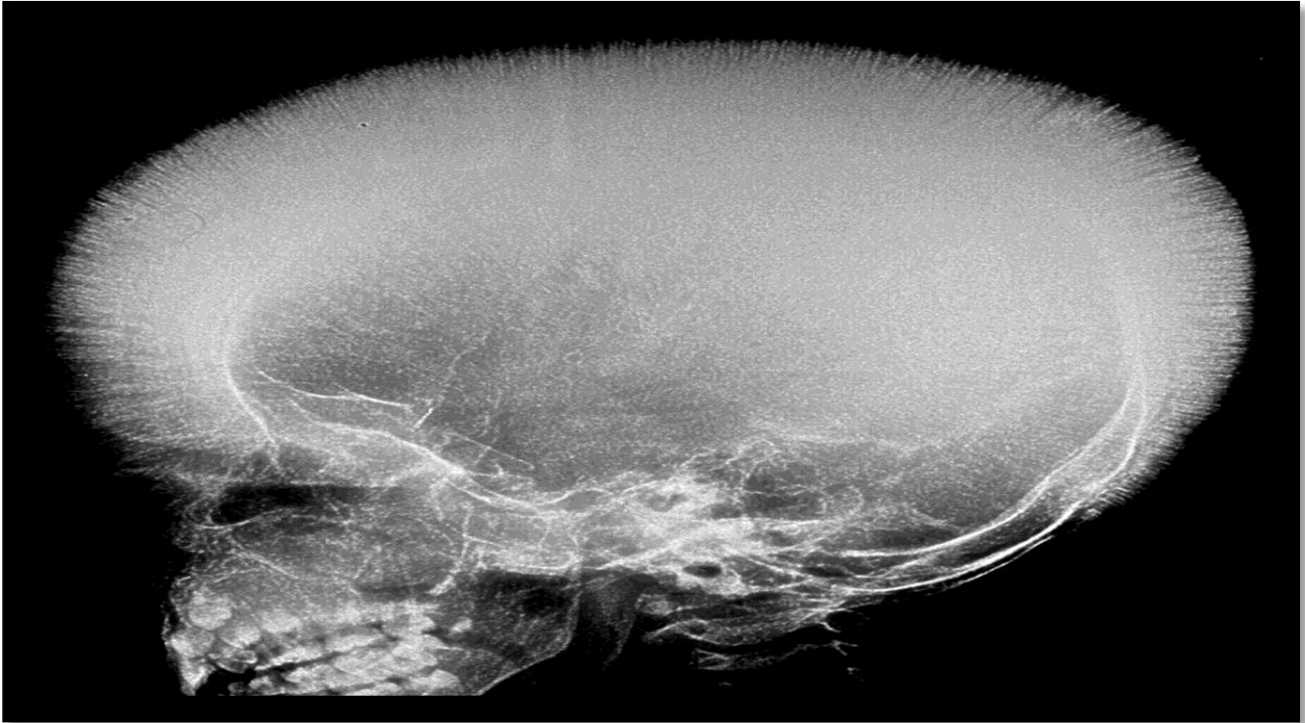
- A. Identify the condition
- B. How will you manage the patient?



CHAPTER 12

DISEASES OF BLOOD

OSPE 101



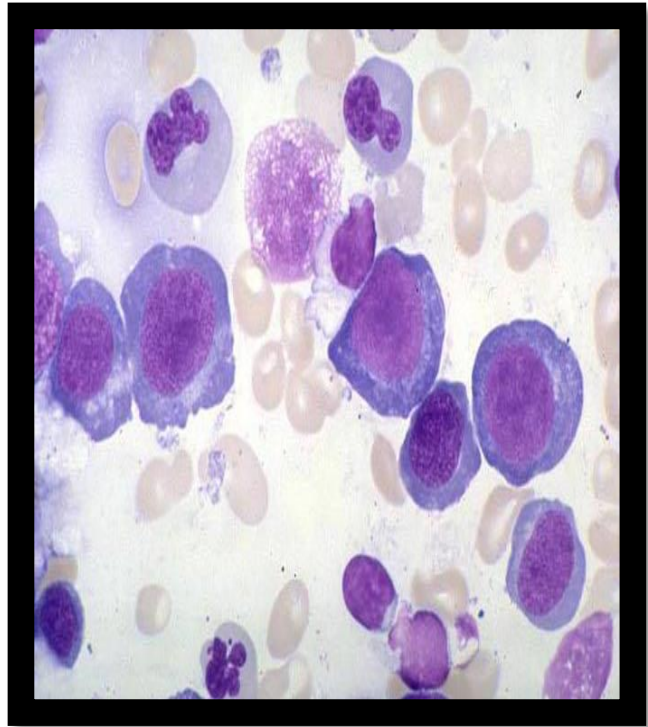
- A. Give the most characteristic feature of this radiograph
- B. Name 2 conditions this radiographic finding is found in.

OSPE 102

A 5-year-old boy presented with bruising of his hands, which his mother first noticed after he fell off a chair. Intraoral examination revealed petechiae. No other bruising, nosebleed, hematuria, bloody stools or hemoptysis or joint or muscle pains were reported.

A. What is your diagnosis

B. Give one histopathological finding

OSPE 103

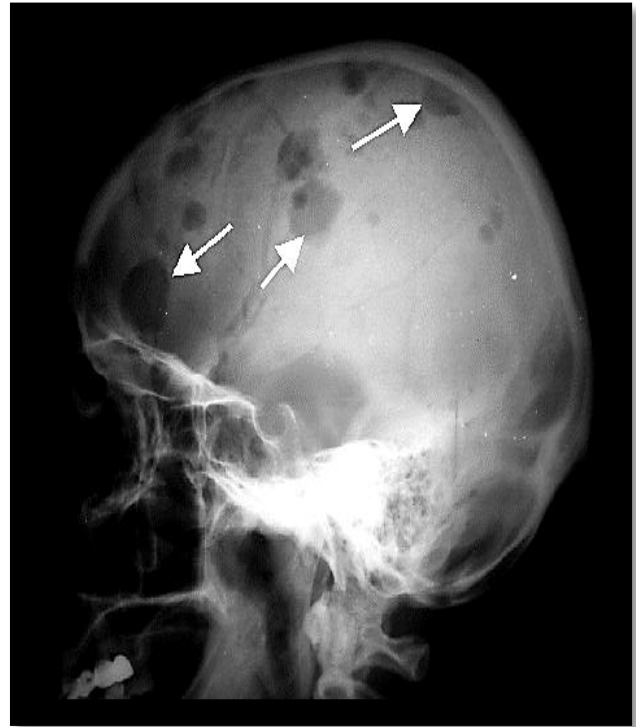
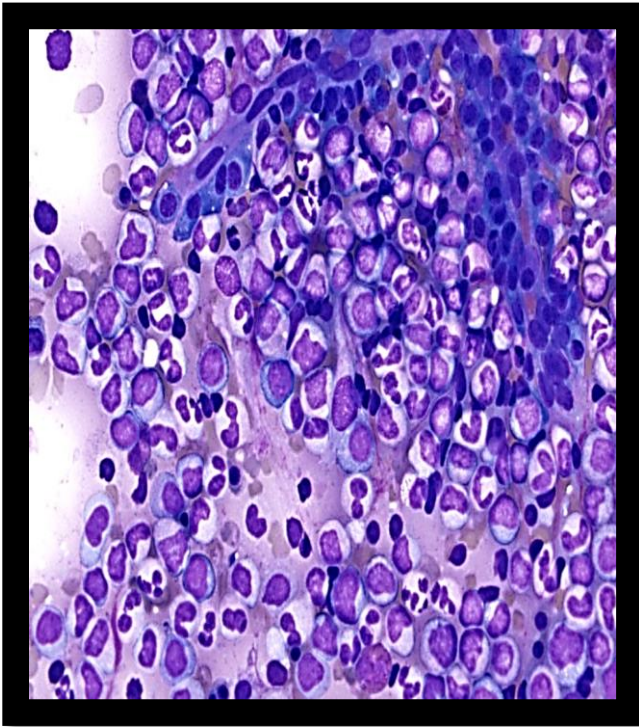
A 30 year old female presented with glossitis and weakness in lower limbs. CNS examination revealed no cerebellar signs but an ataxic gate. The blood smear of the patient showed the above results.

- A. Identify the condition
- B. Give 2 lab findings associated with this condition

OSPE 104

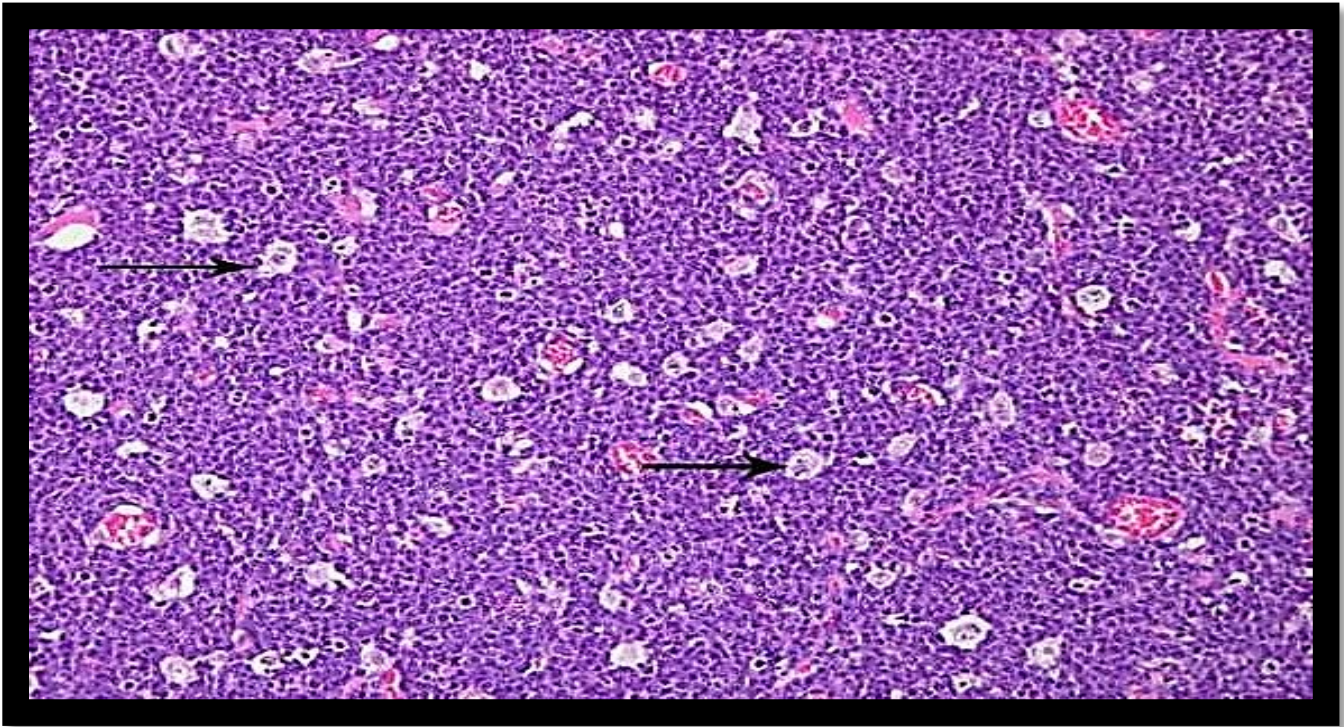
A 30-year-old male with cerebral palsy came with progressive purpuric rash affecting the trunk and legs. He had tenderness on palpation of his extremities. Generalized multiple discrete palpable petichiae in the oral cavity. Intraoral examination revealed the above picture.

- A. Identify the condition
- B. Give treatment

OSPE 105

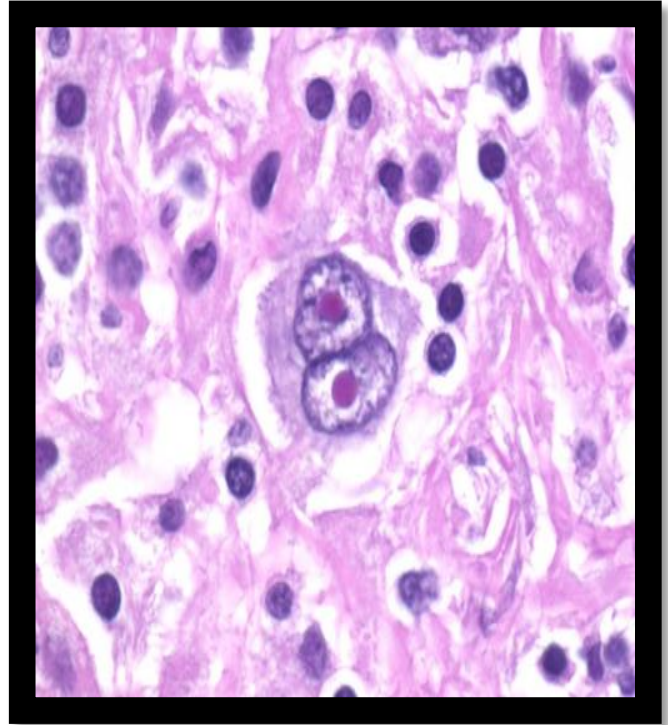
A 60-year-old male presented to the clinic with a complaint of deep bone pains. A serum protein electrophoresis was performed that demonstrated a monoclonal IgA protein. The above histopathological and radiographic findings were revealed.

- A. Give the pathognomonic histopathological feature in the slide above
- B. Give one characteristic radiographic feature.

OSPE 106

An African male patient aged 10 years, presented to the clinic with a massive swelling on his face. Microscopic evaluation revealed the above picture

- A. Identify the condition
- B. Give one characteristic histopathological feature

OSPE 107

A 45 year old patient reported to the clinic with a complaint of unexplained weight loss. Physical examination revealed a palpable lymph node in the neck that was rubbery. The above histopathological picture was revealed.

A. Identify the condition

B. What is the most prominent feature of the slide above?

OSPE 108

A woman presented to the clinic with purpuric, punctate, and tiny macules on her lips and the dorsum of her tongue. Her platelet count and platelet aggregation and clotting factors were found to be normal.

A. Identify the condition

B. Write down one histopathological feature of this condition

ORAL PATHOLOGY PRACTICAL BOOK

This practical note book for dental students provides a comprehensive coverage of various aspects of Oral Pathology.

The practical notebook of such type is very rare and is the first of its kind. It is especially designed to train the Third Year BDS students in understanding basis of practical work, OSPE mastering and diagnostic skills.

A friendly format is used to encourage the students to do a few exercises in order to improve their practical skills.

Slide identification section is more of an interactive area between the students and teachers allowing the students to get an exact feel of diagnostic pathology.

The OSPE section is a very useful section comprising of multiple scenarios and cases of gross sectioning, histological and radiographical images in oral lesions. This will help the students to understand the pattern of the papers they face in their exams and also how to successfully attempt them.

This practical notebook is an effort from the platform of PSOMP and has been designed for the benefit of our students.



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