

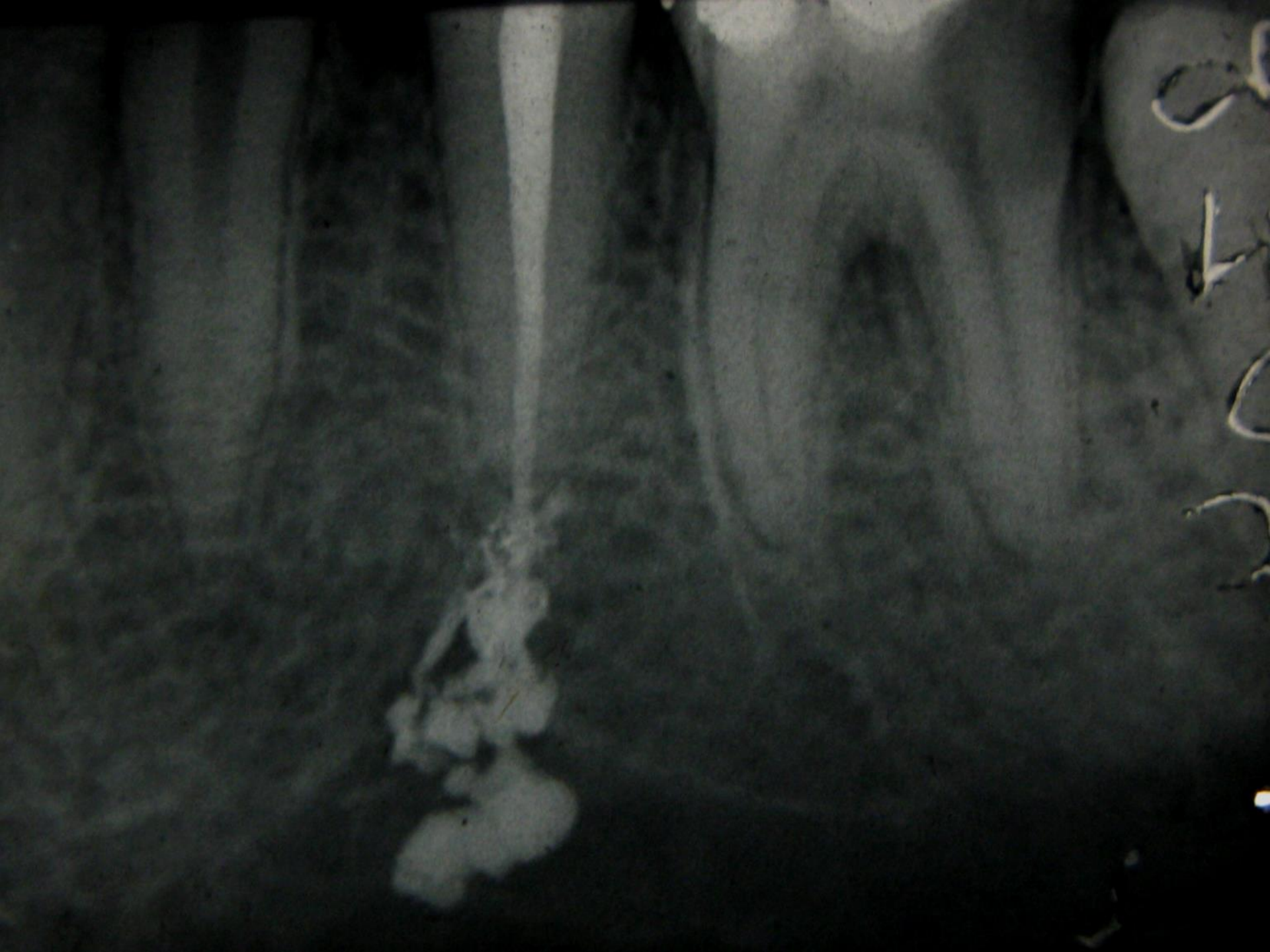
Periapical diseases

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Irritative factors

- 1. Microbial irritants:** Streptococci,
Lactobacilli,
Actinomyces viscosus
- 2. Mechanical irritants:** inadequate cooling during
cavity or crown preparation,
trauma or orthodontic
movement, deep scaling
and curettage
- 3. Chemical irritants:** alcohol, chloroform,
hydrogen peroxide,
acid etching,
overfilled root canal!!!!



Classification of periapical diseases

1. Acute apical periodontitis
2. Chronic apical periodontitis
3. Condensing osteitis
4. Acute apical abscess
5. Chronic apical abscess
(Suppurative apical periodontitis)

1. Acute apical periodontitis

- Etiology:** extension of pulpal inflammation into periapical tissue, endodontic treatment
- Symptoms:** excruciating pain upon contact of opposing teeth
if sequel irreversible pulpitis: symptoms of irreversible pulpitis
if result of necrosis: symptoms of necrosis
- Vitality test:** no respond to vitality tests
- Radiograph:** depending on how long time was the process: normal or thickening of periodontal ligament space
- Histology:** PMN leukocytes, macrophages; bone and root resorption
- Treatment:** release of periapical exudate and root canal therapy, to close!!!!

Acute apical periodontitis



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2. Chronic apical periodontitis

Etiology: pulp necrosis, acute apical periodontitis

Symptoms: asymptomatic, or slight discomfort, slight percussion sensitivity

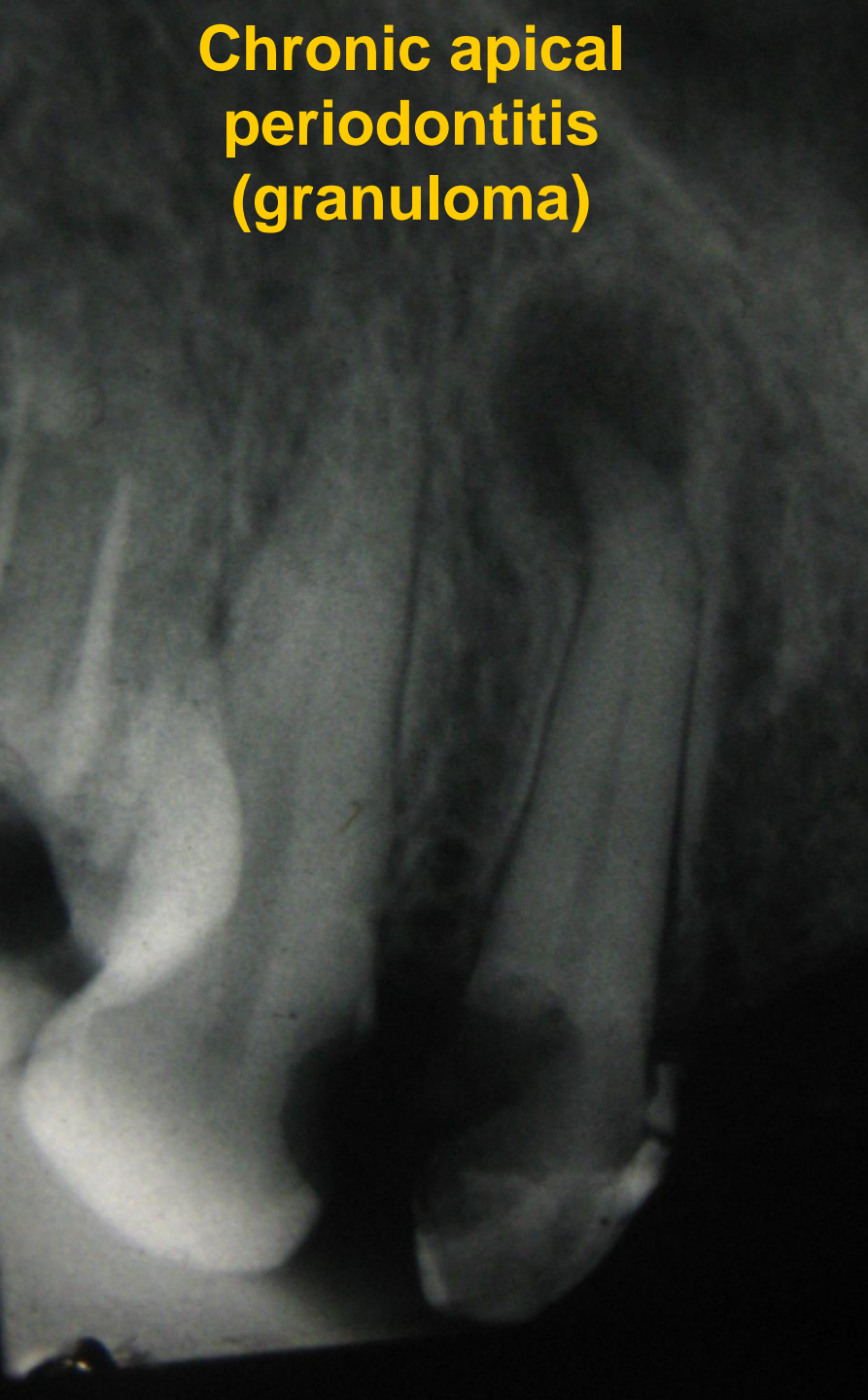
Vitality test: no respond to vitality tests

Radiograph: destruction of periapical tissues

Hystology: periapical granuloma: granulomatous tissue, macrophages, histiocytes, plasma cells
apical cysts: the central cavity filled with eosinophilic fluid, connective tissue, the characteristics cells of the granuloma

Treatment: root canal therapy

**Chronic apical
periodontitis
(granuloma)**



**Chronic apical
periodontitis
(cyst)**



2. Chronic apical periodontitis

Etiology: pulp necrosis, acute apical periodontitis

Symptoms: asymptomatic, or slight discomfort, slight percussion sensitivity

Vitality test: no respond to vitality tests

Radiograph: destruction of periapical tissues

Hystology: periapical granuloma: granulomatous tissue, macrophages, histiocytes, plasma cells
apical cyst: the central cavity filled with eosinophilic fluid, connective tissue, the characteristics cells of the granuloma

Treatment: root canal therapy

3. Condensing osteitis

Etiology: the irritants diffuse from the root canal into periapical tissue (pulp necrosis, pulpitis)

Symptoms: discomfort or pain

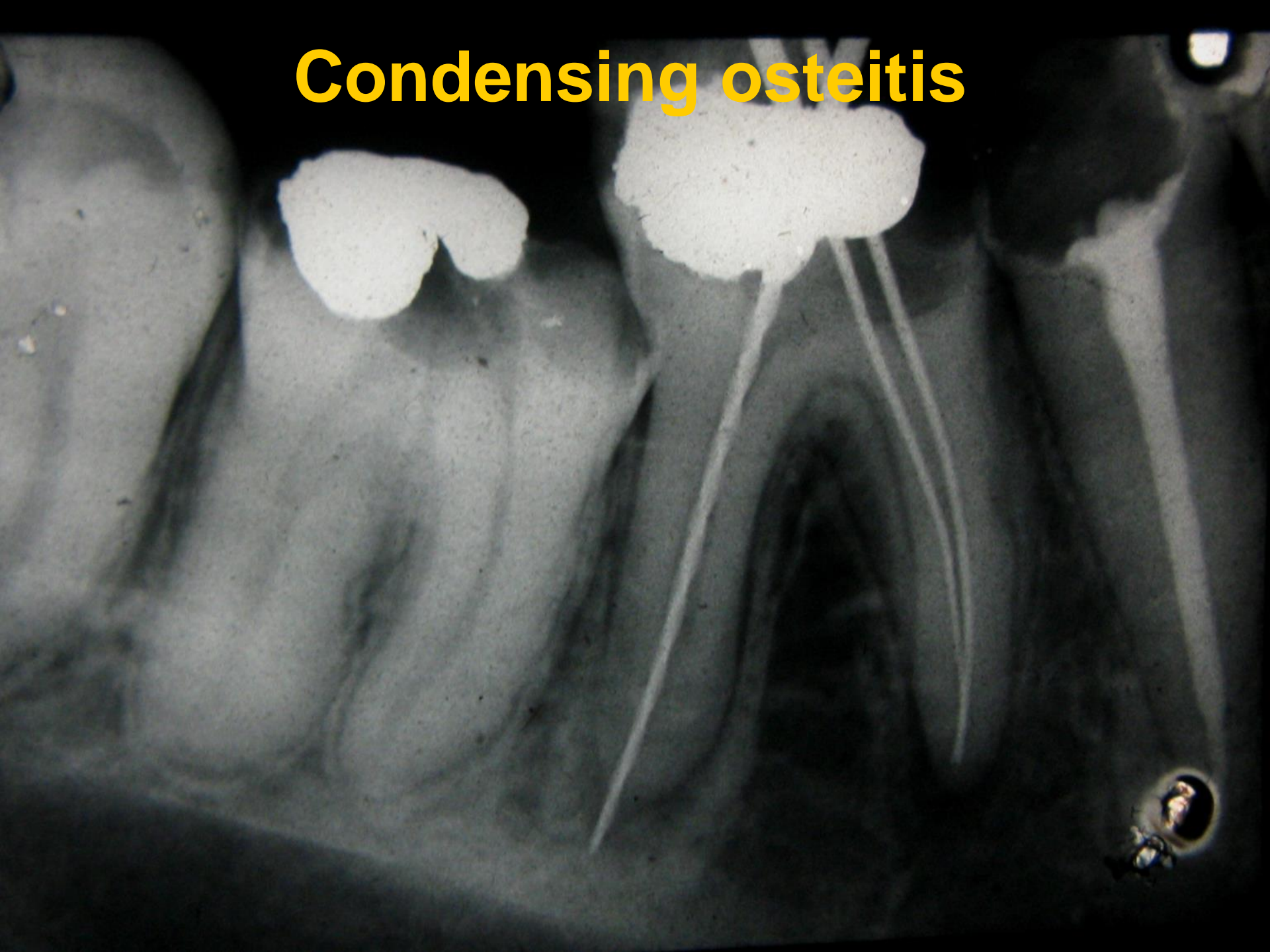
Vitality test: may not or may respond to thermal or electrical stimuli

Radiograph: diffuse concentric radiopacity around the root of the tooth

Hystology: irregularly arranged trabecular bone

Treatment: root canal therapy

Condensing osteitis



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Etiology: the irritants diffuse from the root canal into periapical tissue (pulp necrosis, pulpitis)

Symptoms: discomfort or pain

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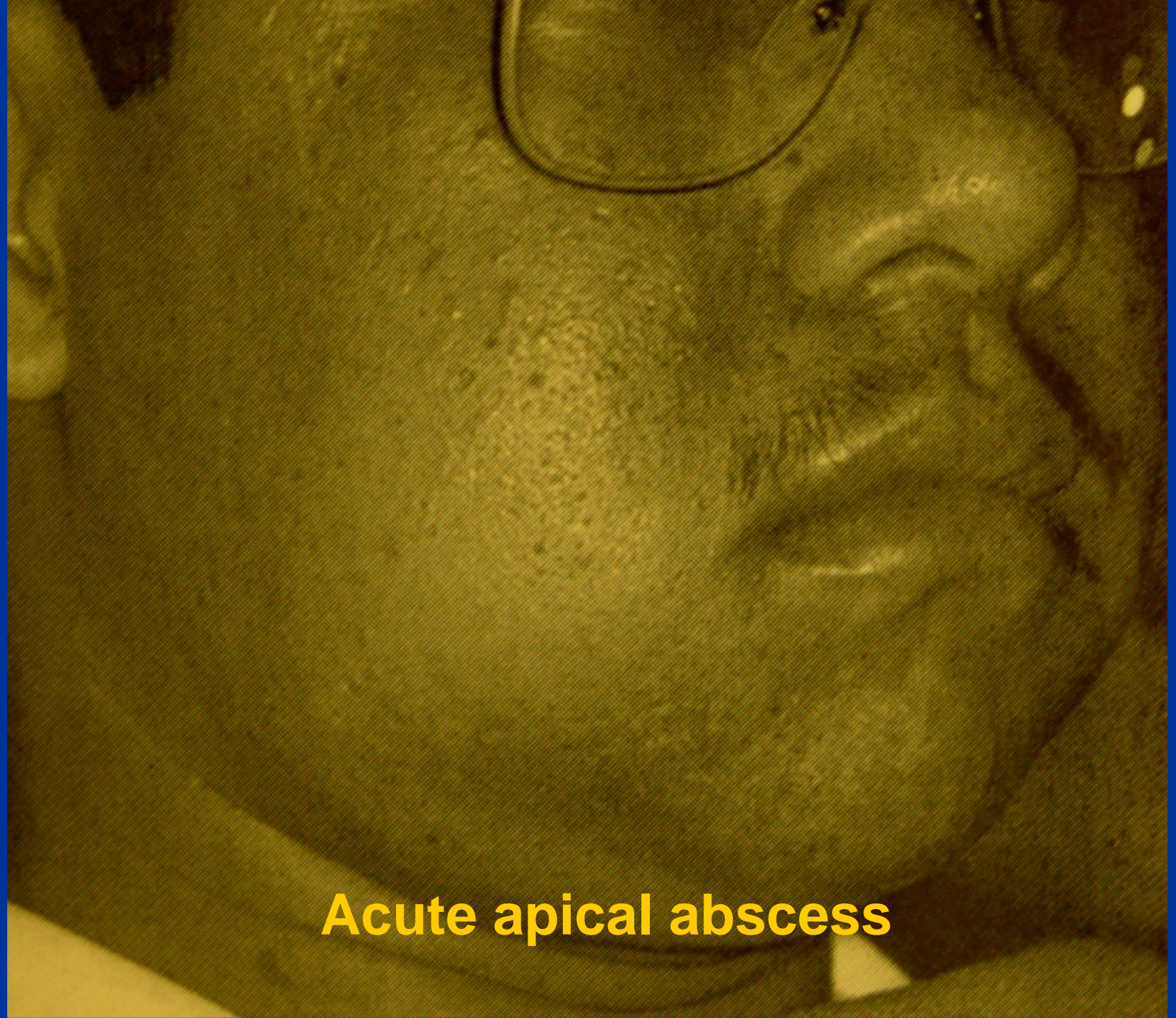
Radiograph: diffuse concentric radiopacity around the root of the tooth

Hystology: irregularly arranged trabecular bone

Treatment: root canal therapy

4. Acute apical abscess

- Etiology:** is a localised and severe inflammatory response (pulp necrosis)
- Symptoms:** pain, swelling, systemic manifestations (fever, malaise, leukocytosis)
- Vitality test:** no response to thermal or electrical stimuli, pain on percussion!!!!
- Radiograph:** thickening of the periodontal ligament space, frank periapical lesion
- Hystology:** liquefaction necrosis, PMN leukocytes, granulomatous tissue
- Treatment:** drainage, root canal therapy, to close!!!



Acute apical abscess



4. Acute apical abscess

Etiology: is a localised and severe inflammatory response (pulp necrosis)

Symptoms: pain, swelling, systemic manifestations (fever, malaise, leukocytosis)

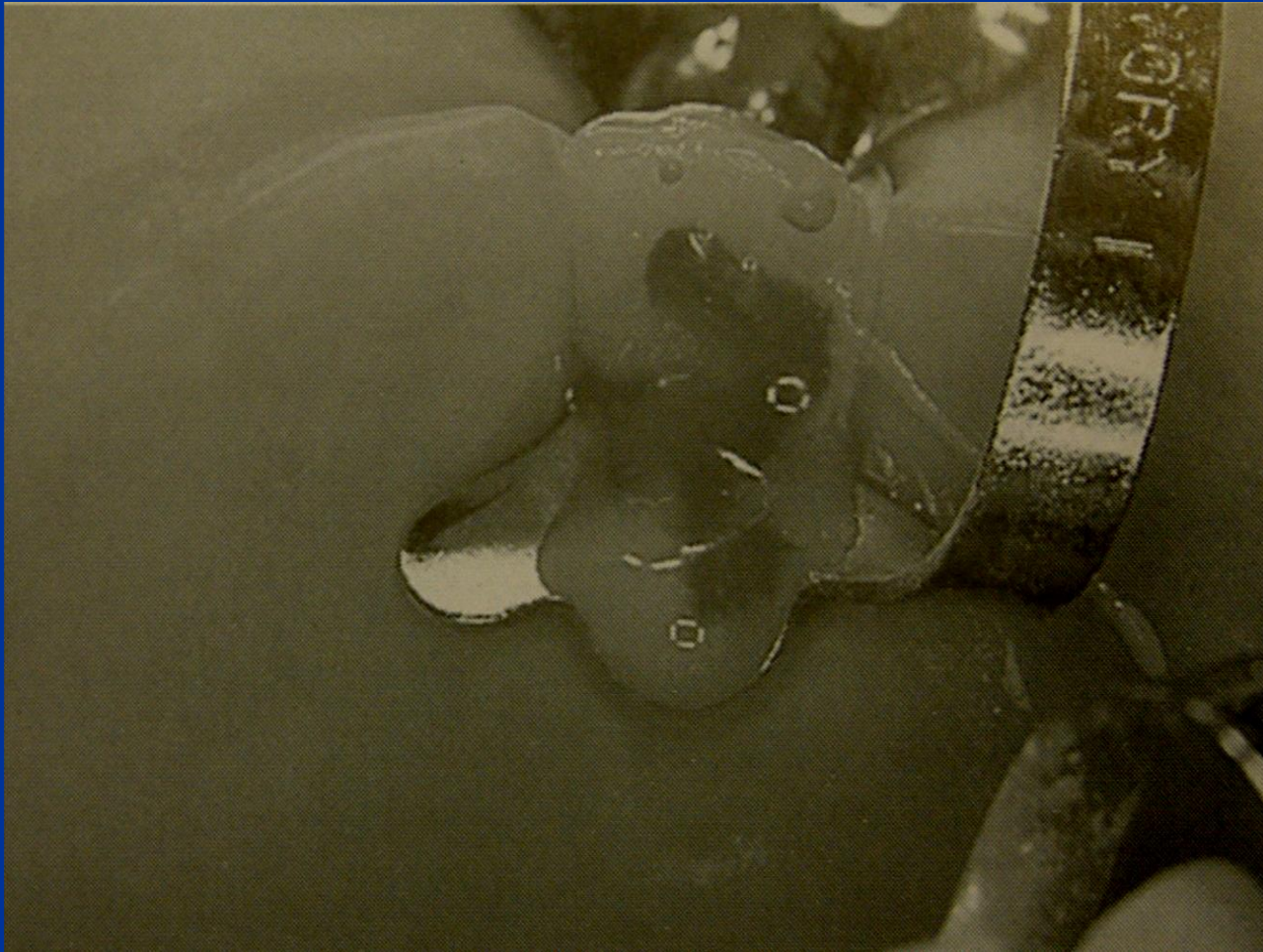
Vitality test: no response to thermal or electrical stimuli, pain on percussion

Radiograph: thickening of the periodontal ligament space, frank periapical lesion

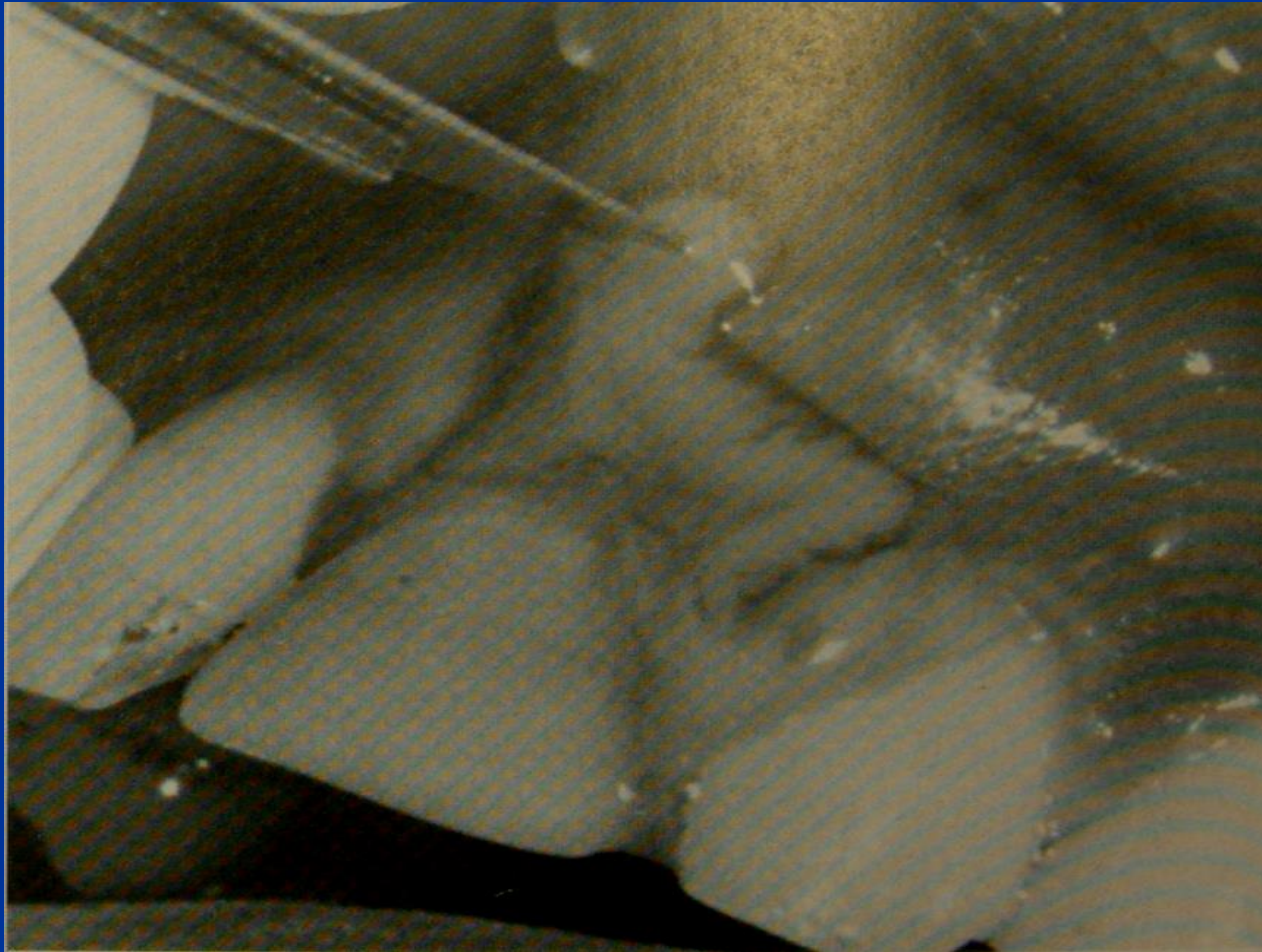
Hystology: liquefaction necrosis, PMN leukocytes, granulomatous tissue

Treatment: drainage, root canal therapy, to close!!!

Treatment



Treatment



5. Chronic apical abscess (Suppurativ apical periodontitis)

Etiology:	pulp necrosis, chronic apical periodontitis
Symptoms:	sinus tract stoma, asymptomatic or closure of the sinus pathway causes pain
Vitality test:	no response to thermal or electrical stimuli
Radiology:	similar as in chronic apical periodontitis
Hystology:	similar to that of chronic apical periodontitis
Treatment:	root canal therapy



5. Chronic apical abscess (Suppurativ apical periodontitis)

Etiology:	pulp necrosis, chronic apical periodontitis
Symptoms:	sinus tract stoma, asymptomatic or closure of the sinus pathway causes pain
Vitality test:	no response to thermal or electrical stimuli
Radiology:	similar as in chronic apical periodontitis
Hystology:	similar to that of chronic apical periodontitis
Treatment:	root canal therapy

Differential diagnosis

Normal structure (anatomic variations):

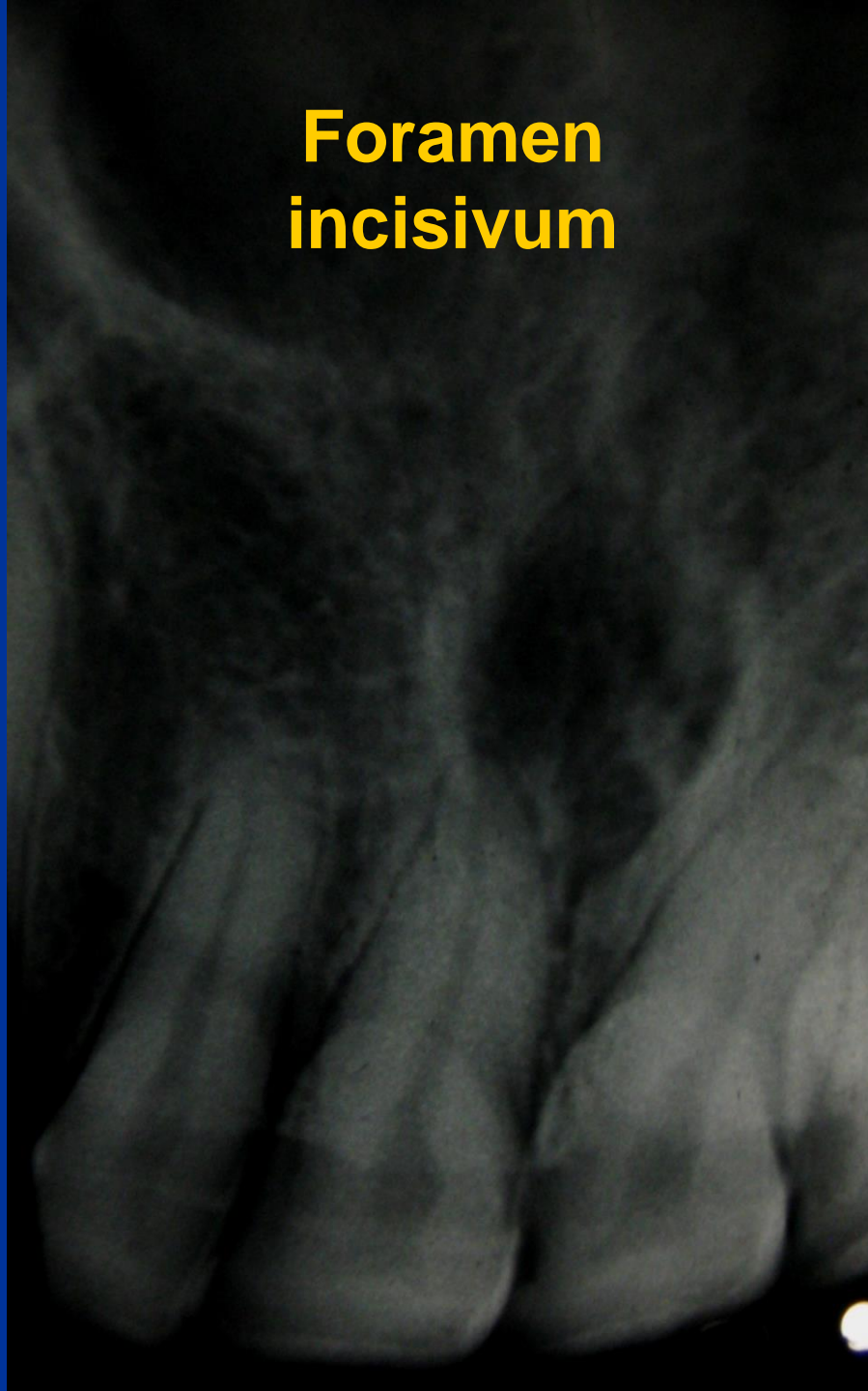
**canalis mandibulae, foramen mentale,
sinus maxillaris, foramen incisivum, dental
papillae of developing teeth etc.**

Nonendodontic pathosis:

**benign lesions: cementoma, monostatic fibrous
dysplasia, traumatic bone cyst, ameloblastoma,
central hemangioma etc.**

malignant lesions: chondrosarcoma, myeloma

**Foramen
incisivum**



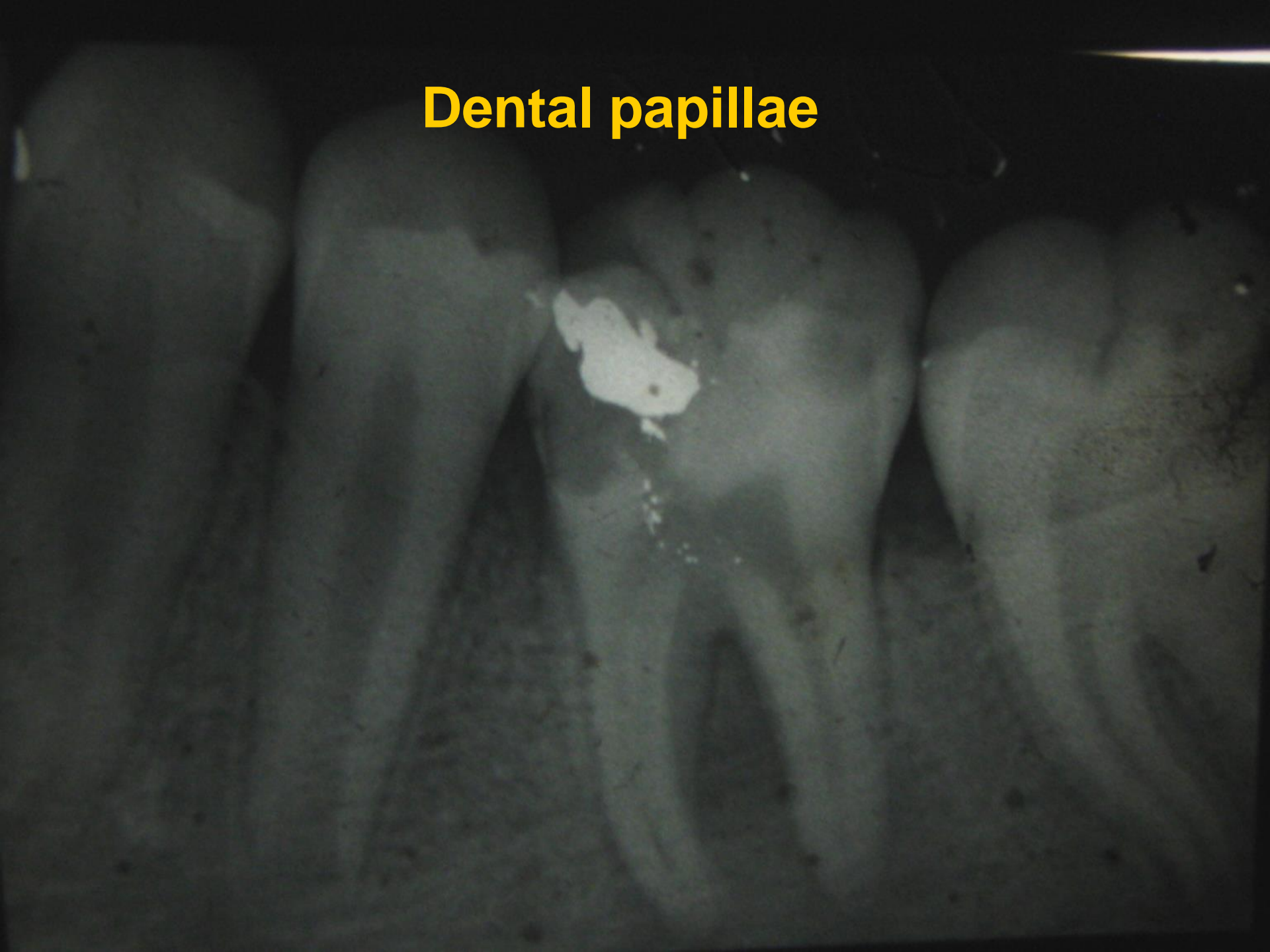
Foramen mentale

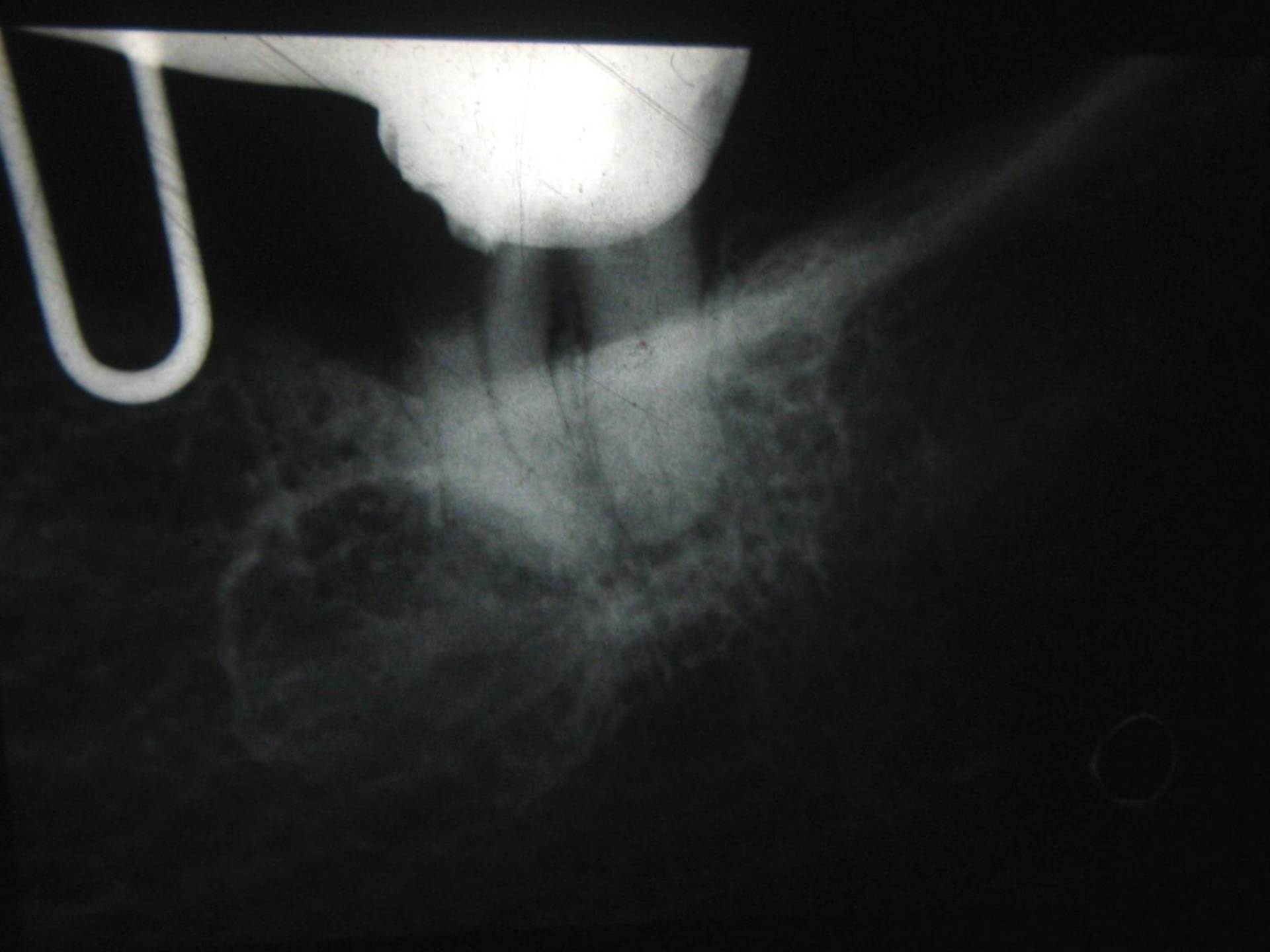




Sinus maxillaris

Dental papillae





A photograph of a dolphin in a pool of clear, bright blue water. The dolphin is dark grey and is positioned in the lower-left quadrant of the frame, with its head tilted upwards and to the right. A white speech bubble with a black outline is located above the dolphin's head, containing the text "Thank you for your attention!". The water surface is covered in gentle ripples, and a portion of a blue ledge or pool edge is visible in the bottom right corner.

Thank you for your attention!