

ORAL MEDICINE & RADIOLOGY

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CLINICAL CASE

An 18 year old female patient reported with a chief complaint of growth in lower left back region of jaw since 1 year. Intraoral examination revealed a solitary growth measuring about 2 X 2 cms on the attached gingival extending over 32, 33, 34 region. The growth was firm in consistency and non tender. Another swelling was present obliterating the buccal vestibule measuring 2 X 2 cms in size extending from 31-34 region. On palpation, the swelling was firm in consistency, non tender. The associated teeth were found to be grade I mobile and nonvital on pulp testing. The patient was subjected to mandibular occlusal radiograph and periapical radiograph which revealed expansion of the buccal cortical plate and a well defined corticated radiolucency extending from 31-34.



Q1. Diagnosis of the swelling is:

- a) Adenomatoid odontogenic tumor
- b) Traumatic bone cyst
- c) Central giant cell granuloma
- d) Aneurysmal bone cyst

Correct answer is a: Adenomatoid Odontogenic tumor

- o The radiographic finding of a well defined corticated radiolucency is suggestive of **Adenomatoid Odontogenic tumor**.
- o **These are of 3 types:**
 - Follicular type: seen in 75% cases, associated with an impacted tooth (maxillary canine)
 - Extrafollicular type: seen in 25% cases, not associated with an impacted tooth.
 - Peripheral: is a rare form that arises in the gingival tissue.

Reference: Philipsen HP, Reichart PA. Adenomatoid odontogenic tumour: facts and figures. Oral Oncol. 1999 Mar;35(2):125-31.

Q2. Diagnosis of the growth is:

- a) Pyogenic granuloma
- b) Traumatic fibroma
- c) Epulis granulomatosum
- d) Gingival enlargement

Correct answer is b: Traumatic fibroma

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- o It is the most common soft tissue benign neoplasm occurring in the oral cavity.
- o It is a painless, localized, mass-producing proliferation of dense fibrous "scar" tissue which can result from a single traumatic episode or from repeated, less severe traumatic episodes.
- o It is a result of a chronic repair process that includes granulation tissue and scar formation resulting in a fibrous submucosal mass.

Reference: Shafer's Textbook Of Oral Pathology (6Th Edition), Page 126.

Q3. Types of Adenomatoid odontogenic tumor:

- a) Luminal, Intraluminal, Mural
- b) Developmental, Collateral, Extranneous
- c) Follicular, Extrafollicular, Peripheral
- d) Basal cell, Granular cell, Demoplastic

Correct answer is c: Follicular, Extrafollicular, Peripheral

- Follicular type: seen in 75% cases, associated with an impacted tooth (maxillary canine).
- Extrafollicular type: seen in 25% cases, not associated with an impacted tooth.
- Peripheral: is a rare form that arises in the gingival tissue.

Reference: Philipsen HP, Reichart PA. Adenomatoid odontogenic tumour: facts and figures. Oral Oncol. 1999 Mar;35(2):125-31.

Q4. The most common type:

- a) Luminal
- b) Follicular
- c) Extrafollicular
- d) Desmoplastic

Correct answer is b: Follicular type

- o Follicular type: seen in 75% cases, associated with an impacted tooth (maxillary canine)
- o Extrafollicular type: seen in 25% cases, not associated with an impacted tooth.
- o Most commonly involved teeth are maxillary canine.

Reference: Philipsen HP, Reichart PA. Adenomatoid odontogenic tumour: facts and figures. Oral Oncol. 1999 Mar;35(2):125-31

Q5. Most common site:

- a) Maxillary anteriors
- b) Maxillary posteriors
- c) Mandibular anteriors
- d) Mandibular posteriors

Correct answer is a: Maxillary anteriors

- o Adenomatoid odontogenic tumor is an odontogenic neoplasm arising from enamel organ or dental lamina.
- o It is most commonly seen in anterior maxilla, commonly affecting canines followed by anterior mandible.

Reference: Oral radiology, White and Pharoah, 4th ed. Page: 392

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Q6. Characteristic histopathological feature:

- a) Spindle shaped retepegs
- b) Duct like structure with lumen lined by cuboidal or columnar cells
- c) Russell's bodies
- d) Inflammatory aggregate

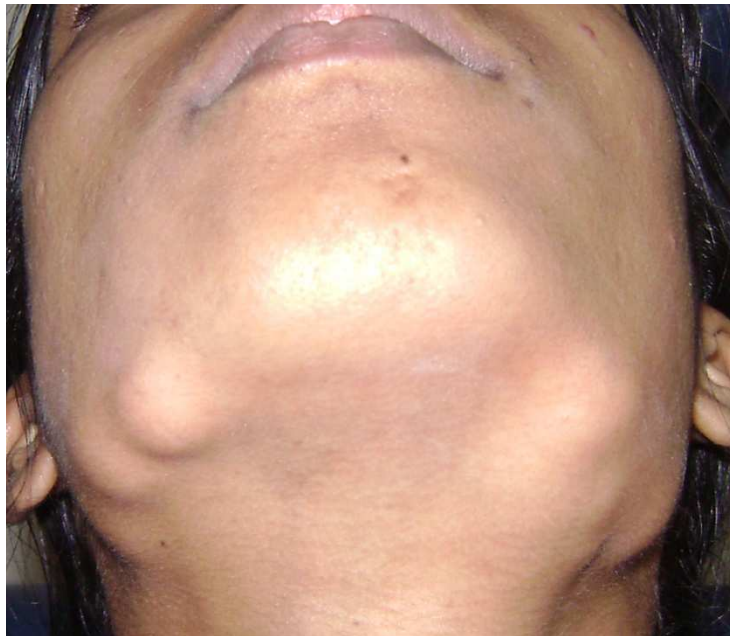
Correct answer is b: Duct like structure with lumen lined by cuboidal or columnar cells

- o The histological features of AOT show a tumor of the odontogenic epithelium, with duct-like structures, and with varying degrees of inductive changes in the connective tissue.
- o The most striking pattern is that of various sizes of solid nodules of columnar or cuboidal epithelial cells forming nests or rosette-like structures, with minimal stromal connective tissue.
- o The tumor may contain pools of amyloid-like material and globular masses of calcified material.
- o Duct like structures give the lesion typical glandular appearance.

Reference: Color atlas of dental medicine. Reichart and Philipsen, Page: 232

CLINICAL CASE

A 25 year old female patient reported with a chief complaint of multiple swellings in the lower jaw developed over a period of 10 years. The swelling was not associated with any secondary signs and symptoms. Extraoral examination revealed gross facial asymmetry due to diffuse swellings on the mandibular body bilaterally. The swellings were bony hard in consistency, non tender and fixed to the mandible. Intraoral examination revealed missing 2, 23, over-retained 63. Patient also had a small cystic swelling on the scalp. Radiographic examination revealed homogeneous radiopaque masses, impacted 21, 23 and multiple impacted supernumerary teeth.



Q7. Diagnosis is:

- a) Cowden's syndrome
- b) Gardner's syndrome
- c) Caffey's disease
- d) Cherubism

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Correct answer is b: Gardner's syndrome

- o It is an autosomal dominant condition characterized by a triad of multiple osteomas, colonic polyposis and mesenchymal tumors of skin and connective tissue.

Reference: Oral radiology, White and Pharoah, 4th ed. Page: 410

Q8. Swellings on the mandibular body are:

- a) Odontogenic tumor
- b) Osteoma
- c) Cyst
- d) Abscess

Correct answer is b: Osteomas

- o These are benign neoplasms or hamartomas, occurring as a solitary or multiple swellings in a single or multiple bones
- o These are characterized by bony hard swellings on the jaw.
- o More commonly affect the mandible, followed by the paranasal sinuses (frontal and ethmoidal sinus more commonly involved than maxillary sinus).

Reference: Oral radiology, White and Pharoah, 4th ed. Page: 410-411

Q9. Classical features:

- a) Hypohydrosis, Hypotrichosis, Hypodontia
- b) Lichen planus, Intestinal polyps, Epidermoid cyst, Osteomas
- c) Ulcerative colitis, Osteomyelitis, Missing teeth, Osteomas
- d) Epidermoid cyst, Intestinal polyps, Osteomas, Supernumerary/ impacted teeth

Correct answer is d: Epidermoid cyst, Intestinal polyps, Osteomas, Supernumerary/ impacted teeth

- o Gardner's syndrome is a subtype of familial adenomatous polyposis.
- o It is caused by [mutation](#) in the [APC gene](#) located in [chromosome 5q21](#).
- o It is a hereditary condition characterized by multiple osteomas, multiple enostosis, cutaneous sebaceous cyst, subcutaneous fibromas, and multiple polyps of the large and small intestine.

Reference: Cawson's Essentials of Oral Pathology and Oral Medicine; page:30.

Q10. Malignant potential is associated with

- a) Hypotrichosis
- b) Epidermoid cyst
- c) Intestinal polyps
- d) Ulcerative colitis

Correct answer is c: Intestinal polyps

- o The polyps may be present in anywhere along the gastrointestinal tract, more commonly in the distal colon.
- o These polyps may have a high rate of malignant transformation into colorectal cancer, adenocarcinoma or periampullary carcinoma.

Reference: Oral radiology, White and Pharoah, 4th ed. Page: 410-411

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CLINICAL CASE

A 50 year old female patient reported with a complaint of dryness of mouth since 2 years. Further history revealed difficulty in eating food and bilateral facial swelling since 2 years. Extraoral examination revealed bilateral enlargement of the parotid glands. Intraoral examination revealed extensive caries, root stumps, atrophic tongue, smooth and shiny mucosa and the milking of glands yielded minimal saliva.



Q11. Diagnosis

- a) Mikulicz's disease
- b) Benign lympho-epithelial hyperplasia
- c) Papillary cyst-adenoma lymphomatosum
- d) Sjogren's Syndrome

Correct answer is d: Sjogren's Syndrome

- o It is a chronic slowly progressive auto- immune disorder characterized by symptoms of oral and ocular dryness, exocrine dysfunction and lymphocytic infiltration of exocrine glands.
- o It consists of triad of xerostomia, keratoconjunctivitis sicca and rheumatoid arthritis in half to two-third of patients.
- o It is of two types:
 - Primary: characterized by dryness of eyes (keratoconjunctivitis sicca) and xerostomia (salivary gland dysfunction)
 - Secondary includes involvement of one or both exocrine tissues associated with other connective tissue disorders like systemic lupus erythematosus, rheumatoid arthritis, scleroderma, Raynaud's syndrome in 50-60% cases.

Reference: Burkit's Oral Medicine. 11th ed. page:191-221.

Q12. Synonyms of this condition:

- a) Sicca syndrome
- b) Raynaud's syndrome
- c) Rheumatoid arthritis
- d) Systemic sclerosis

Correct answer is a: Sicca syndrome

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- o SS is a chronic slowly progressive auto- immune disorder characterized by symptoms of oral and ocular dryness, exocrine dysfunction and lymphocytic infiltration of exocrine glands.
- o It is the most common autoimmune disease next to Rheumatoid arthritis primarily affecting the peri and post menopausal females in the ratio of 9:1.
- o Sjogren's syndrome consists of triad of xerostomia, keratoconjunctivitis sicca and rheumatoid arthritis in half to two –third of patients, hence called as SICCA SYNDROME or GOUGERAT SJOGREN SYNDROME

Reference: Textbook of Oral Pathology. Shafer's 5th ed. Page: 309-356.

Q13. European criteria proposed by American_European Consensus Group in 2002 for the diagnosis of this condition includes:

- a) Ocular signs, ocular symptoms
- b) Oral symptoms, salivary flow
- c) Salivary gland biopsy, serum A autoantibodies
- d) All of the above

Correct answer is d: All of the above

- o European criteria proposed by the American-European Consensus group in 2002.
- o The sensitivity and specificity for the diagnosis of primary Sjogren's syndrome using these criteria are 96% and 94%.
- o To be diagnosed as a case of Sjogren's syndrome, the patient must be positive for below mentioned criteria in the ratio of 4:6.

I) Ocular Symptoms (1:3)

- Dry eyes daily > 3 months
- Sand or gravel sensitivity in the eyes
- Use of tear substitutes (> three times a day)

II) Oral Symptoms (1:3)

- Dry mouth daily > 3 months
- Recurrent or persistent swollen salivary glands
- Frequent sipping of water to aid in swallowing dry foods

III) Ocular Signs (1:2)

- Positive Schirmer's test (<5mm/5min)
- Rose Bengal score (>4 von Bijesterfeld score)

IV) Salivary Function

- Whole unstimulated saliva <1.5ml/15min (0.1ml/min)
- Positive scintigraphy
- Positive sialography

V) Labial Salivary Gland Biopsy

- Presence of focal lymphocytic sialadenitis in minor salivary

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glands, with a focus score > 1 , defined as number of lymphocytic foci which are adjacent to normal-appearing mucous acini and contain more than 50 lymphocytes per 4 mm².

VI) Serum Autoantibodies

- Anti-SS (Soluble Substance)-Ro
- Anti-SS (Soluble Substance)-La
- Rhesus Factor
- Antinuclear Antibodies

Reference: Burkit's: Oral Medicine and Radiology, 11th ed. Page: 211

Q14. Immunological investigations for the diagnosis of condition:

- a) Anti (SS-A) antibodies, Anti (SS-B) antibodies
- b) Anti DNA antibodies
- c) Anti Nuclear antibodies
- d) None of the above

Correct answer is a: Anti (SS-A) antibodies, Anti (SS-B) antibodies

- o These are autoantibodies, which target the body's own proteins rather than infectious or other foreign protein antigens.
- o These have been found to react with SS-A, SS-B (Ro) antibodies from many patients with Sjogrens syndrome, system lupus erythematosus (SLE) and related disorders.
- o Patients with autoimmune diseases such as lupus produce autoantibodies directed against a wide variety of cellular components including nucleic acids, mitochondria, cell-surface antigens, and ribonucleoproteins.

Reference: Burkit's: Oral Medicine and Radiology, 11th ed. Page: 212

Q15. Medical treatment involves the use of:

- a) Adrenaline
- b) Neostigmine
- c) Cevimeline
- d) Physostigmine

Correct answer is c: Cevimeline

- o It is a parasympathomimetic and muscarinic agonist which binds on M1 (in exocrine glands) and M3 receptors (in smooth muscle), stimulates the secretions by the salivary gland, thereby alleviating dry mouth.
- o Pilocarpine may also be used in treatment of Sjogren's syndrome, but has more side effects in comparison to Cevimeline.

Reference: Burkit's: Oral Medicine and Radiology, 11th ed. Page: 212