eebrothers.com, for detailed information on dental books, visit our website www.jaypeebrothers.com, for detailed information on dental books

Essential Quick Review

With Free Companion FAQs on Oral Medicine & Radiology

Oral Medicine & Radiology



HIGHLIGHTS

- Supplementary FAQ book containing Definitions, Classifications and Viva-voce
- Diagrams with supporting answers
- Recent question bank of all India universities
- Covers entire undergraduate DCI syllabus

Priya Verma Gupta
Jyoti Gupta

JAYPEE

Contents

Section 1 Oral Medicine

1. Ulcerative, Vesicular and Bullous Lesions 3-7
2. Red and White Lesions 8-14
3. Keratotic and Non-keratotic White Lesions 15-20
4. Oral Pigmentation 21-25
5. Oral Cancer 26-31
6. Diseases of Tongue and Lips 32-36
7. Salivary Gland Diseases 37-41
8. Disorder of TMJ and MPDS 42-49
9. Ionising Radiation and Regressive Alterations of the Oral Cavity 50-52
10. Odontogenic and Non-odontogenic Tumours 53-57
11. Orofacial Pain 58-65
12. Aids, Bacterial and Viral Infections 66-71
13. Metabolic Disorders 72-78
14. Haematological Disorders 79-86
15. Diagnostic Laboratory Procedure 87-89

Section 2 Radiology

16. Radiation Physics 93-96
17. Radiation Biology 97-106
18. X-Ray Films 107-109
19. Processing of X-Ray Films 110-113
20. Intraoral Radiographic Techniques 114-119
21. Extraoral Radiography 120-129
22. Specialized Radiographic Techniques 130-136
23. Image Principles and Characteristics 137-140
24. Radiolucencies of Jaws 141-155

Section 3 Recently Asked Questions

25. Recently Asked Questions 159-193

CHAPTER 4

Oral Pigmentation

LONG ESSAYS

Question 1

Describe the aetiology, clinical features, oral manifestations and treatment of Kaposi's sarcoma?

Answer

- It was first described by Moritz Kaposi in 1872
- It is a tumour of putative origin and was rarely encountered in oral cavity prior to 1983.

Aetiology

- It is a proliferation of endothelial cell
- Dermal/submucosal dendrocytes, macrophages, lymphocytes and mast cell play an important role
- Other factors are:
  - Infections
  - Enviornmental influences
  - Reduced immunosurveillance
  - Human herpesvirus 8 (HHV8).

Clinical Features

Three clinical patterns have been emerged and they are as follows:

- Classic type
- Endemic type
- Immunodeficiency type.

Classic Type

- Most common in Mediterranean Basin
- Prevalence is rare
- Usually occur in old age
- Multiple bluish-purple macule and plaque
- Skin lesions occur in lower extremities
- Other organs occasionally involved
- Oral lesions are rare, mainly in palate.

Endemic Type

Benign Nodular Type

- Aggressive type: Progressive development of locally invasive lesions that involve the underlying soft tissue and bone
- Florid form: Rapidly progressive and widely disseminated aggressive lesions with frequent visceral involvement
- Lymphadenopathic type: Occurs mainly in young black children and exhibits generalised rapidly growing tumours of lymph nodes, occasional visceral organ lesion and sparse skin involvement.

Immunodeficiency Type

- Most common in metropolitan areas
- Prevalence is relatively common
- Mostly occur in adults
- Any site of skin may get involved
- Other organs are frequently involved.

Oral Manifestations

- Palate, gingiva and tongue are common sites
- Lesion may be flat, ominous or nodular exophytic type
- Lesion may be single or multifocal
- Colour is usually red or blue
- Other features can be present:
  - Candidiasis
  - Hairy leucoplakia
  - Advanced periodontal condition
  - Xerostomia.

Treatment

- Electrocautery
- Intralesional injection of 1% sodium tetradecyl sulphate
- Intralesional 1% vinblastinesulphate, biweeklyinjections.

JAYPEE BROTHERS

Question 2

Discuss the diseases causing oral pigmentation?

Answer

- Pigmentation is a discolouration of the oral mucosa or gingiva due to the wide variety of lesions and conditions
- Oral pigmentation has been associated with a variety of endogenous, exogenous biochemical substances and metabolic products. For example,
  - Melanin
  - Melanoid
  - Oxyhaemoglobin and reduced haemoglobin
  - Carotene
  - Haemosiderin
  - Bilirubin
  - Porphyrins.

Melanin

- Most common endogenous pigment
- Present in basal layer of epithelium
- Derivative of tyrosine and synthesised in melanocytes.

Melanoid

- Granules are scattered in stratum lucidum and stratum corneum of skin
- Imparts a clear yellow shade to the skin.

Oxyhaemoglobin and Reduced Haemoglobin

- They results from haemosiderin deposits
- Skin colour is affected by the capillary and venom plexuses shining through the skin.

Carotene

- Distributed in the lipids of the stratum corneum and stratum lucidum
- Deep yellow colour to the skin.

Haemosiderin

- Gives brown colour
- Deposited as a consequence of blood extravasations
- May occur as a consequence of trauma or a defect in haemostatic mechanism.

Classification of Oral Pigmentation

- Endogenous pigmentations **(Table 4.1)**
- Exogenous pigmentations **(Table 4.2)**
- Clinical classification **(Table 4.3)**.

Table 4.1: Endogenous pigmentation in oral mucosal disease

Pigment	Colour	Disease
Haemoglobin	Blue/red/purple	Varix, haemangioma, Kaposi's sarcoma, angiosarcoma
Melanin	Brown/black/grey	Melanotic macule, nevus, melanoma, basilar melanosis with incontinence
Haemosiderin	Brown	Ecchymosis, petechiae, thrombosed varix, haemorrhagic, mucocele, haemochromatosis

Table 4.2: Exogenous pigmentation of oral mucosa

Source	Colour	Disease
Silver amalgam	Grey/black	Tattoo, iatrogenic trauma
Lead, mercury, bismuth	Grey	Ingestion of paint and medicines
Graphite	Grey/black	Tattoo, trauma

Table 4.3: Clinical classification of oral pigmentation

Colour	Focal lesion	Diffuse lesion	Multifocal lesion
Blue/purple	Varix, haemangioma	Haemangioma	Kaposi's sarcoma, hereditary haemorrhagic telangiectasia
Brown	Melanotic macule, nevus, melanoma	Ecchymosis, melanoma, hairy tongue, drug induced	Physiologic pigment, neurofibromatosis, haemochromatosis, Addison's disease, drug induced, Peutz–Jeghers syndrome, petechiae
Grey/black	Amalgam, nevus, graphite, melanoma	Amalgam, melanoma, hairy tongue	Heavy metal ingestion

SHORT ESSAYS

Question 1

Describe the aetiology, clinical features, oral manifestations, investigations, radiographic features and treatment of haemangioma.

Answer

- It is a common tumour characterised by proliferation of blood vessels
- Usually congenital in nature.

JAYPEE BROTHERS

Aetiology

- Abnormality of endothelial cell proliferation
- Results from increased number of capillaries.

Clinical Features

- Usually occur at birth or at early age
- Female: Male = 3 : 1
- Head and neck region most common (60%)
- In very few cases, total body surface is involved
- More in white people
- Lesion may be single or multiple
- Lesion may be bright red and lobular surface
- Lesion is firm in consistency
- Blood cannot be evacuated on pressure.

Oral Manifestations

- Flat or raised lesion of oral mucosa
- Deep red or bluish red in colour
- Well circumscribed
- Lips, tongue, buccal mucosa are common sites.

Investigations

- Diascopy
- Radiographs
- Biopsy
- Angiogram
- Doppler and conventional ultrasonography
- Radionuclide-labelled red blood cell scintigraphic scanning.

Radiographic Features

- Honeycomb appearance may be present
- Resorption of roots may be seen.

Treatment

- Congenital: Undergoes spontaneous regression at an early age
- Radiation therapy
- Surgery: Lasers or cryosurgery
- Sclerosing: 1% sodium tetradecyl sulphate
- Intralesional steroids in children.

Question 2

Write briefly about Sturge–Weber syndrome?

Answer

- It is also known as encephalofacial or encephalo-trigeminal angiomatosis
- It is a rare, non-hereditary developmental condition that is characterised by a hamartomatous vascular proliferation involving the tissues of brain and face
- It is believed to be caused by the persistence of a vascular plexus around the cephalic portion of the neural tube
- This plexus develops during the 6th week of intrauterine development but normally undergoes regression during the 9th week.

Clinical Features

- Dermal capillary vascular malformation of the face known as port-wine stain or nevus flammeus, because of its deep purple colour
- Unilateral distribution along with one or more segments of trigeminal nerve
- Patient may also have leptomeningeal angiomas
- Convulsive disorders may be present
- Mental retardation or contralateral hemiplegia may also be present.

Oral Manifestations

- Gingiva may show vascular hyperplasia or more massive haemangiomatous proliferation
- Unilateral involvement of oral mucosa
- Asymmetric jaw growth
- Alter tooth eruption sequence.

Radiographic Features

Radiograph of the skull shows gyriform 'tramline' calcifications on the affected side.

Question 3

Describe the aetiology, clinical features, oral manifestations and management of hereditary haemorrhagic telangiectasia/ Osler-Weber-Rendu disease?

Answer

It is a form of haemangioma, congenital hereditary disease characterised by numerous telangiectatic or angiomatous areas which are widely distributed on the skin and mucosa of the oral cavity and which tend to undergo repeated haemorrhage.

Aetiology

- Hereditary haemorrhagic telangiectasia type 1 (HHT1) is caused by mutation of the endoglin gene on chromosome 9, whereas activin receptor-like kinase 1 (ALK1) mutation produces HHT2
- Transmitted by both sexes as a simple autosomal dominant.

JAYPEE BROTHERS

Clinical Features

- Male : Female = 1:1
- Spider-like telangiectasia is present at or shortly after birth
- Skin lesions are most common on face/neck and chest
- Most important sign—epistaxis as well as bleeding from oral cavity.

Oral Manifestations

- Characterised by multiple round or oval purple papules measuring less than 0.5 mm in diameter
- Common sites are:
  - Vermilion border of lip
  - Gingiva
  - Buccal mucosa
  - Palate
  - Floor of mouth
  - Tongue.

Management

- Pressure packs
- Electrocauterisation
- Radiation therapy
- Surgical excision
- Septal dermoplasty
- Iron supplement therapy.

Question 4

Write briefly about heavy-metal pigmentation?

Answer

- Ingestion or exposure to any one of several heavy metals can cause significant systemic and oral abnormalities
- Exposure to heavy metals may be massive, resulting in acute reactions or it may be minimal over a longer period producing chronic changes
- Oral alterations can be produced by ingestion of following metals:
  - Lead
  - Mercury
  - Silver
  - Bismuth
  - Arsenic
  - Gold.

Mercury

- Mercury poisoning may be acute or chronic
- Increased flow of saliva
- Metallic taste
- Swelling of gingiva may be seen
- Grey to black colour of mucosa may be seen
- Loosening of teeth.

Acrodynia (Pink Disease, Swift's Disease)

- Chronic mercury exposure to infants and children
- Profuse salivation
- Gingiva becomes sensitive and painful
- Premature shedding of teeth.

Silver (Argyria)

- Subepithelial deposits in skin
- Diffuse greyish-black discolouration is seen
- Sclerae and nails may be affected
- In oral mucosa, slate-blue lines are seen along the gingival margin.

Bismuth

- Mostly used for treating dermatologic disorders
- Usually occurs in buccal mucosa and gingiva
- Characteristic'bismuth line' is seen, thin blue-black along with marginal gingiva
- May be seen on lips, ventral surface of tongue.

SHORT NOTES

Question 1

Write briefly about café au-lait pigmentation?

Answer

- Bronze and tan diffuse multifocal macular pigmented lesions are present
- Macule may be several centimetres wide
- They are present over face, neck
- Occasionally present in oral mucosa
- Associated disease are:
  - Neurofibromatosis
  - McCune Albright syndrome
  - Fibrous dysplasia.

JAYPEE BROTHERS

Question 2

Describe the aetiology and oral manifestations of amalgam tattoo?

Answer

It is a clinically evident pigmented lesion.

Aetiology

- Dentist's bur loaded with small amalgam particles
- Traumatically introduces metal flecks
- At the time of multiple tooth extraction
- Metal particles may fall unnoticed in the extraction socket.

Oral Manifestations

- Solitary or focal pigmentation of oral mucosa
- Lesion may appear as macule
- Bluish grey or black in colour
- Most commonly on buccal mucosa, gingiva and palate.

Question 3

Write briefly about drug-induced melanosis?

Answer

- Lesion may be large but localised
- Usually to hard palate
- It may be multifocal throughout the mucosa
- Lesions are flat
- Various drugs:
  - Antimalarials
  - Quinidine
  - Zidovudine
  - Minocycline
  - Tetracycline
  - Oral contraceptives
  - Ketoconazole.

JAYPEE BROTHERS

for detailed information on dental books, visit our website **www.jaypeebrothers.com,** for detailed information on dental books, visit our website w

Essential Quick Review

Oral Medicine & Radiology

Essential Quick Review (EQR) is a simple and comprehensive series that contains all the important aspects of the final year syllabus. The language used here is lucid as well as scientific which can be easily gathered and reproduced in examinations. Efforts have been made to cover all important areas in the form of question–answers, definitions and classifications format. We hope that this effort of ours will prove out to be beneficial for students.

Priya Verma Gupta is an experienced pedodontist, currently working as Professor at Divya Jyoti College of Dental Sciences and Research, Modinagar, Ghaziabad, Uttar Pradesh, India. She has keen interest in academics and has many international and national publications to her credit. She has so far authored several books and has contributed actively to other medical and dental textbooks as a co-author as well as contributor. Currently, she is associated with the editorial board of Journal of Indian Medical Gazette and Jaypee's International Journal of Clinical Pediatric Dentistry.



Jyoti Gupta is a Professor of Oral Medicine and Radiology at Career Postgraduate Institute of Dental Sciences and Hospital, Lucknow, Uttar Pradesh, India. She was elected and served as an Assistant Editor for the Journal of Indian Academy of Oral Medicine and Radiology. She has co-authored, edited and contributed in many dental books. She also has various publications to her credit, attended many workshops and presented papers in speciality conferences.



Available at all medical bookstores
or buy online at www.jaypeebrothers.com

JAYPEE BROTHERS
Medical Publishers (P) Ltd.
www.jaypeebrothers.com

Join us on facebook.com/JaypeeMedicalPublishers

Shelving Recommendation
DENTISTRY

ISBN 976-93-86056-20-7