Review Article

Animal metaphors in oral pathology-A review

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Abstract

Oral pathology is a challenging yet intriguing subject. By comparing pathological traits to things we typically encounter, it is possible to reduce the difficulty of memorising these qualities. Hence, the usage of various analogical methods, like the usage of metaphors, conveys likeliness or similarities between two items and can help the students. A lot of pathological features have a resemblance to animals we see on a frequent basis. Students might find comparing, examining and comprehending oral pathology easier when the information is compared with familiar animals. This article is an attempt to compile animal metaphors related to oral pathology.

Keywords: Appearances, metaphors, oral lesions, visual analogy

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INTRODUCTION

Oral pathology is a fascinating yet arduous subject. An easier, simpler and more straightforward approach can minimise the tedious task of memorising pathological features by comparing them with things we see on a routine basis. A metaphor is a figure of speech in which a word or phrase literally denoting one kind of object or idea is used in place of another to suggest a likeness or analogy between them.[1] Comparing facts in oral pathology with animals that are familiar to students makes it easy for them to compare, study and understand oral pathology.

ANIMAL METAPHORS IN ORAL PATHOLOGY

1. **Swarm of 'bees':**
   - Seifert described the components of the epithelium and myoepithelial ducts, strands, sheets, or structures in **pleomorphic adenoma** that resemble a swarm of bees.[2]
   - In **leishmaniasis**, on cytological examination, a swarm of bees appears, which may arise when the macrophages' cytoplasm contains parasites.[3]
2. **Bird facies:**
   - Small mandible is a characteristic finding of **Pierre–Robin syndrome,** which gives a bird face appearance. The growth of the mandible seems to normalise by the fifth year of age.[4]
   - The genetic condition known as **Hallerman–Streiff syndrome** has a beak-shaped nose, a hypoplastic jaw and retrognathia, giving it a bird-like look. Dental abnormalities and brachycephaly with frontal bossing are further signs of this syndrome.[5]
   - Orofacial and oral symptoms are present in **Mulvihill–Smith syndrome**. As a result of the lower half of the face's hypoplasia, it is said to have the classic pinched or bird face appearance. (Either retrognathia or micrognathia)[6]

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- Bird face deformity is also seen in severe bilateral **Temporomandibular Joint (TMJ) ankylosis,** which is also referred as 'Andy Gump deformity'[7]

3. **Bulldog facies/jaw**: Early signs of **congenital syphilis** include a saddle nose, a small maxilla, and a protruding jaw.[8]
4. **Bull's teeth**: **Taurodontism** is an alteration in the tooth's morpho-anatomy in which the body of the tooth is enlarged at the expense of the roots. Owing to the morphologic similarity with the teeth of a bull, it is also called 'bull's teeth'. The term 'taurodontism' originates from the Latin 'tauro', which means bull, and the Greek word 'dont', which means tooth. It is also known as 'bull's teeth'.[9]
5. **Butterfly rash**: Erythematous rash is seen bilaterally over the malar area and nasal bridge, sparing the nasal fold resembling a butterfly, which is called malar rash or butterfly rash. The differential diagnoses include **cellulitis, rosacea, erysipelas, dermatomyositis pellagra and lupus erythematosus.[10]**
6. **Cat tongue sign**: Removal of adhering scale from the lesional area in **discoid lupus erythematosus** reveals horny plugs that have colonised patulous hair follicles on the underside of the scale resembling the surface of the cat tongue. Furthermore, **seborrheic dermatitis** and **pemphigus foliaceous** exhibit this symptom. It is also known as a 'Tin tack sign' or a 'Carpet tack sign'.[11]
7. **Caterpillar cells**: Caterpillar cells are another name for Anitsckow cells. It has an ovoid nucleus and chromatin that is compressed in the nucleus's core in the shape of a wavy rod, which, according to some people, resembles a caterpillar. It manifests in **aphthous ulcers** and **rheumatic heart disease**.[12]
8. **Camel foot rete pegs**: **Plaque-type psoriasis** exhibits it histopathologically. Regular elongation of rete ridges into the dermis, gives the appearance of a camel foot, to accommodate the expanding basal cells that are in a proliferative state.[13]
9. **Chipmunk facies**: The classical 'Chipmunk facies', which is present in **β thalassemia**, manifest as frontal bossing, maxillary expansion, a saddle nose, and a depressed cranial vault resembling the face of a chipmunk which belongs to the squirrel family.[14]
10. **Crocodile tears syndrome** (Gustatory lacrimation): According to a legend, crocodiles cry after devouring their prey. 'Crocodile tears syndrome', also known as Bogorad syndrome, is the crying while eating or drinking that occurs in **Bell's Palsy** patients recuperating from this condition.[15]
11. **Ugly 'duckling' sign**: This is used for intrapatient comparison of **nevi**. This represents a nevus, which appears differently in a particular individual. Such lesions should be suspected of melanoma, and a biopsy is advised at that site.[16]
12. **Elephant foot rete ridges**: Broad rete ridges that develop into the connective tissue stroma and resemble 'elephant feet' are visible in **verrucous carcinoma**.[17]
13. **Fish flesh appearance**: The cut surface of the lymph nodes in **lymphoma** is whitish in colour and firm in consistency, resembling the appearance of fish flesh.[18]
14. **Gorilla facies**: Symptoms of **acromegaly** include an enlarged face, protruding lower jaw, large nose and lips, giving an appearance that resembles the face of a gorilla.[19]
15. **Leonine facies**: A deeply furrowed 'lumpy' face with prominent superciliary arches resembling that of a lion. It is classically noted in **lepromatous leprosy**. They are also reported in **sarcoidosis, airborne contact dermatitis, mycosis fungoides, amyloidosis, leishmaniasis** and **Paget's disease.[20]**
16. **Monkey facies**: Loss of the buccal fat pads is one of the characteristics of monkey facies. It is a symptom of **marasmus**.[21]
17. **Moth-eaten appearance**: This is a radiographic sign of a malignant process that is expanding rapidly into the bone and is characterised by numerous areas of bone destruction with ragged edges. **Multiple myeloma, lymphoma** and **Ewing's sarcoma** have the appearance of moth-eaten tissue. Due to bone lysis and replacement with granulation tissue, **osteomyelitis** also displays this appearance in the form of widened Volkman's canals and enlarged medullary spaces.[22,23]
18. **Owl's eye**: Classical reed Sternberg cells in Hodgkin's disease and CMV-infected cells resemble an owl's eye. However, classical reed Sternberg cells possess a symmetric mirror image of bilobed nucleus with prominent eosinophilic nucleoli, whereas CMV-infected cells have basophilic intranuclear viral inclusions.[24,25]
19. **Rodent ulcer**: Basal cell carcinoma also goes by the name 'Rodent ulcer' as it may spread deeply, invade and destroy the underlying tissue, giving a gnawed appearance.[21]
20. **Salmon patch**: Also called stork bite, is a pink blanching patch over forehead which disappears over time. It is thought to be comprised of dilated dermal capillaries reflecting the persistence of foetal circulation patterns in the skin.[26]
21. **Serpentine nucleus:** Peripheral nerve fibres have wavy nuclei which resembles a snake/serpentine hence described as 'serpentine nucleus'.[27]

22. **Snail track ulcer**: Numerous mucous patches that could coalesce to become serpiginous lesions, often known as snail track ulcers in **secondary syphilis**.[28]
23. **Spider angioma**: A vascular lesion known as a spider angioma, also called a spider naevus or a spider telangiectasia, is recognised by an abnormal dilatation of the end vasculature located just beneath the skin's surface. A centre red patch and reddish extensions that spread outward like a spider's web make up the lesion. They could show up as numerous or isolated lesions. A spider angioma has a body, legs and erythema ring around it, which gives it the appearance of a spider.[29]
24. **Staghorn pattern**: **Hemangiopericytoma** blood vessels frequently exhibit uneven branching, which results in a distinctive 'stag horn' and 'antlerlike' look. Stag horn is a histopathologic hallmark of hemangiopericytoma.[30]
25. **Talon's cusp**: A dental abnormality called talon cusp gets its name due to its resemblance with Eagle's talon. It is an additional cusp that develops on an anterior tooth as a result of evagination on a crown's surface before calcification.[31]
26. **Tadpod cells:** These cells contain hyperchromatic nuclei and are elongated, club-shaped, with broad ends that taper to narrow ends**.**
    - Uncommon keratinised epithelial cells that resemble tadpoles are found in papanicolaou (PAP) smears of a few cases of **squamous cell carcinoma**. They are known as keratinised tadpole cells.[32]
    - In **rhabdomyosarcoma**, tumour cells frequently acquire a 'tadpole' look with a big pleomorphic nucleus and a brilliantly eosinophilic tail of cytoplasm.[33]
27. **Bag of 'Worms': Plexiform neurofibromas** are an uncommon type of NF-1 in which connective tissue and skin folds are also involved. They develop from many nerves as bulging, deforming masses, which gives them the clinical term for the lesions as 'bags of worms'.[34]
28. **Zebra lines**: Nuclear striations seen in the tumour cells of myoepithelioma are referred to as 'Zebra lines'.[35]

Eagle's syndrome is often confused by some students as a metaphor. But, in actuality, it is an eponym named after the otorhinologist Eagle, who had described the aetiology of this entity to be an elongated styloid process.[36]

CONCLUSION

Retaining and recollecting a lot of pathological features is a cumbersome and herculean task, especially for undergraduate students. Analogical methods can simplify the task and are an innovative way to help students remember a lot of pathological features.

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