

Innovations

Paediatric Neoplasms of Oral Cavity-A Explanatory Review

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Abstract: *Paediatric neoplasms are important part in paediatric dentistry were diagnostic and treatment are challenging. Appropriate treatment planning and early diagnosis is the key feature in paediatric neoplasms. As these are rare and only constitutes 1-2% of overall adult neoplasms the dentist should have better awareness and knowledge over the clinical diagnosis aspect.*

Various neoplasms mainly of salivary gland tumours and some rare neoplasms of mesenchymal origin have high mortality rate. Some oral carcinomas are very early in children. This review article emphasises on various rare paediatric neoplasm arising in oral cavity.

Keywords: *Neoplasm, Paediatric, salivary gland, knowledge and awareness*

Introduction:

Childhood diseases are important and continuous source of interest among medical and dental practitioners. There is various disease conditions present in children that includes congenital, developmental and hereditary diseases, these diseases can occur either at birth or in early childhood. Age, clinical presentation, etiology are the mainly considered as a major clue in identifying many diseases. In children the treatment approaches are different, so clinicians should have adequate knowledge in order to diagnose and treat pathological conditions.(1)

Neoplasms of oral cavity in paediatric populations are rare when compared to the adult population in India, but the rate of prognosis is poor in children. Neoplasms included benign and malignancy. Benign tumors are relatively common in oral cavities of new-borns and children. The most common benign tumors are fibroma, haemangioma and Lymphangioma. The most commonly observed precancerous lesions are leukoplakia, erythroplakia, oral lichen planus and oral

submucous fibrosis, which also have a higher potential for malignancy transformation. These types of lesions are common in populations where cultural tobacco chewing habits are followed. In malignancy, oral squamous cell carcinoma has been reported to occur in younger population. There are also other neoplasms of epithelial and mesenchymal origin that includes neurogenic, vascular, fibro-osseous, odontogenic and salivary gland tumours. This review article is aimed to enumerate the various neoplasms in oral cavity of paediatric population where these can provide basic knowledge on various pathologies. (2)

Classification:

1. According to the nature and characteristics:

- Benign
 - Fibroma
 - Haemangioma
 - Lymphangioma
- Malignant
 - Oral squamous cell carcinoma

2. According to the nature of origin:

Epithelial origin:

- salivary gland tumours
 - Pleomorphic adenoma
 - Warthin's tumour

Mesenchymal origin:

- Neurogenic tumour:
 - Neurofibroma
 - Neurilemmoma
 - Neuroma
 - Melanoticneuroectodermal tumour
- Vascular lesion:
 - Haemangioma
 - Lymphangioma
- Fibro-osseous lesion:
 - Juvenile ossifying fibroma (4, 5)

Benign Neoplasms:

Fibroma:

It is one of the most common benign tumours of the oral cavity, which occurs due to chronic irritation that leads to connective tissue proliferation. Common Site includes palate, tongue, buccal mucosa, or lips with less than 1 cm in diameter; color is same as surrounding mucosa. Anna Carolina et al, 2016, reported a case of 2 years old girl with tissue growth on the lingual gingival

mucosa which was pedunculated, non-hemorrhagic and firm in consistency and histopathologically diagnosis revealed giant cell fibroma. (6)

Haemangioma:

It is a common benign, fast growing vascular tumour and very common in children. Common site includes buccal mucosa, dorsum of the tongue, gums, and lips which is red in color if present near surface and if deep it appears blue, moderately hard on palpation and common among girls. Painless but can ulcerate or bleed due to trauma.

Kumar et al, 2022 reported a case of 10 years old female with presence of a reddish lesion inside the lower jaw, soft in consistency, non-tender and slightly bleeds on palpation. Histopathology revealed oral capillary haemangioma. Patient followed up for 6 month and showed no recurrence. (1,7)

Lymphangioma:

It is a benign tumor of the lymphatic system, common at birth also present during infancy. Common site includes tongue, lips and buccal mucosa which are located superficially, soft on palpation, pink or red/bluish. Cystic hygroma is a sac-like large lymphangioma which may involve the tissues of the mouth floor and neck. Functional or aesthetic defects are removed surgically. Harsha Bhayya et al, 2015 reported a case on 8 years old male, with multiple popular growth in the left dorsal half of the tongue, on palpation was soft, pebbly and non-tender. The lesion was excised and histopathologically diagnosed as Lymphangioma. As tongue is the common sight and showed the typical features of pebbly appearance it was confirmed as Lymphangioma. (2,8)

Malignant Tumour:

Oral squamous cell carcinoma (OSCC):

OSCC is the common malignant neoplasm of oral cavity but they commonly affect adult population. In children only few cases are reported so far, the earliest age where a case of OSCC of oral cavity was diagnosed was in 12th day of life in 1932. Common site are tongue and gingiva. Surgical removal, radiotherapy or chemotherapy can be done. As they are aggressive and has poor tumour behaviour, prognosis is poor.

Jeyashanth Riju et al, 2017 reported a case of moderately differentiated OSCC in 10 years old girl with clinical grading of T4aN0M0. Surgical wide excision and segmental mandibulectomy was done. Patient had no recurrence upon follow-up. (3,9,10)

Salivary Gland Tumours:

Pleomorphic adenoma:

It is a rare tumour accounts only 1% of all salivary gland tumours. Only 5-10% reported in children less than 20 years of age. Common site are minor salivary gland – palate, lip and cheek.

Kalenahalli Jagadishkumar et al, 2014 reported a case of 9 years old girl presented with right cheek swelling, histopathology suggestive of pleomorphic adenoma and patient was followed up for 1 year without any recurrence. (11)

Rare Paediatric Oral Neoplasms:

Warthin's tumor:

As Warthin's tumours are rare entity they are even rarer in case of paediatric population only few cases so far has been reported in the literature. Mitsuhiro Aoki et al, 2014 reported a case of 8 years old female with painless swelling in the ear lobe which was soft, non-mobile and smooth. Surgical resection was done and histopathology showed positive findings of Warthin's tumour in the parotid gland. (12)

Oral myopericytoma:

Dalit Porat Ben Amy et al, 2021 reported a case of 6 years old boy with solitary growth in the posterior right maxilla which was reddish, well-circumscribed and firm nodular. Surgical excision was done and histopathology suggestive of smooth muscle tumour further histochemistry of Calponin staining and smooth muscle actin staining for spindle cells and endothelial cells was done and concluded a diagnosis of Myopericytoma. (13)

Leiomyoma:

Leiomyoma is a benign smooth muscle tumor that commonly occurs in the uterine myometrium of the uterus and gastrointestinal tract rarely but sometimes rarely encountered in the oral cavity, particularly in children. Peruka et al, 2021 reported a case of 10 years old female with swelling in the left lower jaw region, which was solitary, pedunculated, well-circumscribed, nonfluctuant and non-suppurative. Microscopically diagnosed as low grade spindle cell neoplasm, histochemistry was further done with SMA and S-100 protein and finally concluded as leiomyoma and under follow up no recurrence was found. (14)

Conclusion:

Paediatric neoplasms are rare entity, but all dentists should have a thorough knowledge and understanding on various pathologies and their importance in diagnosing and providing correct treatment plan. Some pathologies are asymptomatic and life threatening, paediatric dentist should have better awareness over differentiating the pathologies from normal. Any neoplasms

should be diagnosed as early as possible which can provide a better outcome. Multidisciplinary approaches with other specialities provide a team work in diagnosing the disease. So, it is always important for the paediatric dentist to focus on all part of dentistry in providing a better treatment to child patients.

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