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Prevalence of infectious diseases and disorders in relation to head and neck region pertaining to - An original research

(Prevalencia de enfermedades y trastornos infecciosas en relación con la región de cabeza y cuello - Una investigación original)

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Abstract(english)

Assessment of oral health includes careful examination of hard and soft tissues. The Global Burden of Diseases,2015 indicates that dental caries and periodontal diseases are the most common oral disorders followed by other oral lesions. The aim of the study is to identify the pattern and expression of oral mucosal lesions using WHO guidelines and Oral Hygiene Index – S respectively in paediatric population. 100 patients 3-16 years of age from department of paediatrics in a multispeciality hospital, Chennai were examined. Majority of them had oral lesions(68%) with traumatic ulceration being the most common.

Keywords(english)

Oral, paediatric, dental, pathology, lesions.

Resumen(español)

La evaluación de la salud bucal incluye un examen minucioso de los tejidos duros y blandos. La Carga Mundial de Enfermedades de 2015 indica que la caries dental y las enfermedades periodontales son los trastornos bucales más comunes, seguidos de otras

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lesiones bucales. El objetivo del estudio es identificar el patrón y la expresión de las lesiones de la mucosa bucal, utilizando las directrices de la OMS y el Índice de Higiene Bucal (S), respectivamente, en la población pediátrica. Se examinaron 100 pacientes de 3 a 16 años del departamento de pediatría de un hospital multidisciplinario de Chennai. La mayoría de ellos presentaba lesiones bucales (68%), siendo la ulceración traumática la más frecuente.

Palabras clave(español)

Oral, pediátrica, dental, patología, lesiones.

Introduction

Oral and dental health does not comprise only dental caries and periodontal diseases (1). Oral mucosal lesions (OML) present as alterations in the soft tissue of the oral cavity associated with etiopathogenesis, clinical features and variable diagnostic and prognostic characteristics (2). Oral mucosal lesions can be benign or potentially malignant requiring no treatment to extensive invasive treatment (3). The recognition of these lesions involves thorough history taking and intraoral examination (4). The assessment of soft tissues in paediatric patients involves knowledge of normal size, shape, color, and texture of the structures that comprise it (2). Epidemiological studies have shown significant variation among different geographical locations (5). Literature evidence of oral lesions among the paediatric population is scarce. The presentation of lesions in oral mucosa in children can differ from adults in respect to colour, size alterations, aetiology, clinical characteristics, prognosis, and treatment protocol Thus, it is importance to assess the prevalence of the oral lesions in paediatric population for appropriate management. The main objective of this study was to identify the pattern and expression of oral mucosal lesions using WHO guidelines and Oral Hygiene Index – S respectively in paediatric population.

Materials and methods

Patientes. The study sample includes 100 patients 3-16 years of age from department of paediatrics in a multispeciality hospital, Chennai. A thorough history taking was done. Demographics, chief complaint, history of presenting illness, past medical history, extra oral and intra oral examination were assessed. Intraoral examination involved assessment of hard tissue, soft tissue and radiographic examination. The lesions were recorded in a structured format involving site, size, shape, colour, consistency and extension. This study was done over a period of one year between April 2023 to April 2024. The inclusion criteria included outpatients and inpatients of 3 - 16 years of age. The exclusion criteria were patients who were not co-operative and patients who are unable to participate due to systemic illness.

Statistical analysis. The results were collected and analysed with chi-squared test and ANOVA using Statistical Package for Social Sciences (SPSS version 21).

Results

Demographics. The gender distribution was 52% male and 48% female. When the relationship between age and BMI were assessed majority of them (54%) were normal, 26% were underweight, 11% were overweight and 9% of the children were obese. Majority of the children examined had good OHI score.

Prevalence of lesion. Majority of the lesions present between 3-4 years of age (p=.001) and the least in the age group of 15-16 years of age. The lesions were present on 68% of the population. The most common lesion observed was traumatic ulceration, followed by dentoalveolar abscess, gingivitis, geographic tongue, while the other lesions, comprising of white lesion, ankyloglossia, eruption cyst, and aphthous ulcer encased 1% of the oral lesions present in the patients examined.

Discusión

In this study, oral screening was done for 100 children. 68% of the participants had lesions whereas 32% were devoid of lesions. Male participants recorded higher oral mucosal lesions.44% of the lesions found in age group of 3-4 years. A majority of the patients examined had oral lesions, of which traumatic ulcers were the most predominant.

Shulman et al examined the prevalence of oral mucosal lesions in children and youths in the USA and found a majority of them had lesions present with lip being the most common site and lip bite/cheek bite, the most common lesion. Males had more lesions present compared to females (6).

Hussein et al assessed the prevalence of oral lesions among the Jordanian children and found that

47.4% had oral lesions and that there was no significant difference among the gender. However, he deduced that the prevalence increased with age (7).

Ambika et al examined oral lesions in children attending an Indian public school and observed its presence in 64.11% of the sample population. The most common lesions evident were gingivitis, gingival abscess and traumatic ulcers (8).

Traumatic ulcer. Ulcerations can cause defects in the epithelium, connective tissue or both. Traumatic ulceration is a common oral mucosal lesion due to habits, malocclusion, sharp tooth, mechanical/chemical/thermal injury and vitamin deficiency. With their location being buccal mucosa, labial mucosa. They can be solitary or multiple. They can persist for a few days or a few weeks but become painless three days after elimination of the injury and heal in 10 days (9).

Geographic tongue. It is a benign recurrent condition affecting the tongue with loss of epithelium. The aetiology is unknown with burning sensation, pain or it can be asymptomatic. It persists for a few days to few weeks and can reappear at a different location (10).

Gingivitis. Gingival inflammation in children can progress to cause destruction of the periodontium of the adult. The wide contact points between the interdental region in children, increases the susceptibility to bacterial growth and provide for a wider area of destruction (11). Abrams et al conducted a study on prevalence of gingivitis among well and mal nourished children and found that no significant difference in the Plaque Index (PII) and the Modified Gingival Index (MGI) among well-nourished and malnourished groups and between males and females. But there was less plaque and gingivitis among well nourished children when examined with age percentiles (12).

Dentoalveolar abscess. Dentoalveolar abscess are caused by bacteria causing pulpal necrosis like Streptococci and Peptostreptococci which then progresses to formation of the dentoalveolar abscess. They can spread to the adjoining buccal, mandibular, submandibular, sublingual and submental spaces causing space infection and subsequently cellulitis formation (13). Azodo et al assessed the presence of dentoalveolar abscess among Nigerian children and found that there was significant incidence of dentoalveolar abscess among children with deciduous first molar being the most commonly affected and untreated dental caries, the most common cause (14).

Ankyloglossia. Ankyloglossia is a congenital anomaly with an abnormally short lingual frenulum. It is also called as tongue tie with an 4.4% to 4.8% incidence in new-borns and a male female ratio of 3:1.0. It can lead to difficulty in swallowing, sucking and speech in children (15,16,17). The management includes frenectomy, lingual plasty and myofunctional training (18).

White lesions. The prevalence of white lesions in children include frictional keratosis, leukoedema and linea alba. They can present as ulcers, color changes, and alterations in size and configuration of oral anatomy. Discontinuation of causative habits and removal of the causative irritant usually resolves the lesions (19).

Eruption cyst. The prevalence of eruption cyst is predominant in the Caucasian race. It is a soft tissue benign cyst associated with an erupting primary or permanent teeth and appears before the appearance of these teeth in the oral cavity (20). They may disappear but should be treated if there is bleeding, pain or are infection. The management is drainage of the cystic contents (21).

In conclusion, a thorough oral examination plays an important role in the identification and successful treatment of these oral lesions. Since oral and systemic health are interlinked, more emphasis has to be given on diagnosis and treatment of the same. Thus, this study plays a major important role in diagnosis of oral lesions which might go unnoticed in the initial stage. Therefore, a thorough and complete oral examination is mandatory in paediatric population to identify mucosal lesion and variation at an earlier level facilitating the management.

Conflict of interest

None to declare.

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