

Abstract 1

An unusual white lesion in a 10 month old child

Anthonappa RP¹ and King NM²

¹BDS (India), MDS (HK), AdvDipDS (HK), MPaedRCS (Edin)

PhD candidate Paediatric Dentistry and Orthodontics, Faculty of Dentistry, University of Hong Kong, Prince Philip Dental Hospital, 34 Hospital Road, Hong Kong SAR, China.

²BDS (Hons), MSc (Hons), PhD, Hons FDSRCS, LDSRCS, MRACDS, FHKAM (Dental Surgery), FCDSHK (Paediatric Dentistry)

Professor and Postgraduate programme director in Paediatric Dentistry, Faculty of Dentistry, University of Hong Kong, Prince Philip Dental Hospital, 34 Hospital Road, Hong Kong SAR, China.

Abstract

Introduction: Oral lesions commonly diagnosed in neonates include Epstein's pearls, Bohn's nodules, dental lamina cysts, natal teeth and congenital epulis. Nevertheless, intriguing cases which have rarely been reported in the literature are sometimes encountered by clinicians. We report a case of an unusual white lesion in a 10-month old male infant. **Clinical report:** The infant's mother had noticed a small white swelling in the anterior region of the maxilla in the morning which increased in size by the late afternoon. Hence, she was urged by the paediatrician to seek dental advice. Intra-oral examination revealed a white mass (approximately 5mm in diameter) in the maxillary right central incisor region, firm in consistency and adherent to the mucosa. Radiographic examination indicated that the white mass was radiolucent. The parents were reassured and advised to monitor the lesion. The parents returned three weeks later reporting that the white mass had, that day, shed spontaneously. It had an uniform hemispherical outline and measured 10mm x 5mm in diameter. Histopathological examination reported the mass to be acellular and amorphous; as it did not resemble any known bodily tissues, it was diagnosed as a "foreign body". **Conclusion:** Infants tend to explore things with their mouths; hence they put anything they can hold into

their oral cavity to determine the size and texture. This case serves to illustrate that the unexpected can occur and that in children the differential diagnosis should include a “foreign body”.

Abstract 2

Management issues related to dilacerated incisors

Chung CWM¹ BDS, MDS,

King NM^{2*} BDS(Hons), MSc (Hons), FDSRCS, LDS RCS, MRACDS, PhD

¹ Chung, Caroline Wai Mun

Postgraduate student pursuing an AdvDipDS in Paediatric Dentistry, Faculty of Dentistry, The University of Hong Kong

² King, Nigel Martyn

Professor, Paediatric Dentistry, Faculty of Dentistry, The University of Hong Kong

*Corresponding author: **Professor Nigel M. King**

Paediatric Dentistry and Orthodontics

2 / F, Prince Philip Dental Hospital,

34, Hospital Road, Sai Ying Pun

Hong Kong

e-mail: profnigelking@mac.com

Phone: 852-28590253

Fax: 852-25593803

Abstract

Tooth dilaceration is an uncommon condition which provides a challenge in both treatment planning and management approaches. The two main schools of thought regarding aetiology of

dilaceration reported in the literature include trauma to the primary dentition, and ectopic positioning of the permanent tooth germ. The clinician should be mindful of the importance of early diagnosis in order to provide the best treatment outcome for the patient. Awareness of the clinical presentation, in addition to the ability to accurately interpret radiographic images will assist in diagnosis and prognosis, with consequent appropriate treatment options. Six cases of dilacerated maxillary permanent incisors which were managed at the Prince Philip Dental Hospital serve to aid discussion of issues including aetiology, tools in the diagnosis, and various management options.

Abstract 3

Management of supernumerary teeth in children

Lee HMG¹ BDS (HK), MDS (HK),

King NM² BDS(Hons), MSc (Hons), FDSRCS, LDS RCS, MRACDS, PhD

¹Postgraduate student pursuing an AdvDipDS in Paediatric Dentistry, Faculty of Dentistry, The University of Hong Kong

Abstract

Supernumerary teeth are considered one of the most significant dental anomalies affecting the primary and mixed dentition. This anomaly can cause a variety of complications. It is one of the most common reasons for referral by general practitioner. Signs suggesting the presence of supernumerary teeth, particularly aberrations in the eruptive pattern, should be recognized and be initiated to perform relevant investigations. Early diagnosis and appropriate intervention are extremely important for managing supernumerary teeth. Appropriate intervention can avoid the possible future complications caused and can help the correct evolution of the dentition development. Our paper intends to review the aetiology of supernumerary and discuss the different useful diagnostic radiographs available and various management approaches as illustrated by actual cases.

Abstract 4

A case report of Pallister-Killian syndrome (PKS): new dental findings

DU R.Y*, CHUNG C.W.M, and KING N.M.

Paediatric Dentistry and Orthodontics, Faculty of Dentistry, The University of Hong Kong, Prince Philip Dental Hospital, 34 Hospital Road, Pokfulam, Hong Kong SAR, China.

*DU Yanlin Rennan, BDS (China); Postgraduate (MDS Year II in Paediatr Dent) dental student, Paediatric Dentistry, Faculty of Dentistry, University of Hong Kong, Hong Kong SAR, China

Introduction

Pallister-Killian syndrome (PKS) is a sporadic condition with autosomic tetrasomy of chromosome 12p, resulting in a mosaic distribution of the supernumerary isochromosome. We report a case of PKS affecting an 11-year-old girl with 12p mosaicism (karyotype 46, XX). Diagnosis was confirmed at 2 years of age. She presented with alopecia, dysmorphic facies, diaphragmatic hernia, PDA and a dilated aorta root. Extra-oral findings included facial asymmetry, low implantation of the ears and sparse eyebrows. The dental findings included delayed eruption, macrodont maxillary right central incisor (or double tooth) with congenital absence of the lateral incisor in both the primary and permanent dentitions. There was an anterior single tooth crossbite, spacing, posterior cross-bite.

Clinical Management

The discrepancy in size between the maxillary permanent right and left central incisors presented a treatment dilemma. Because reduction of right central incisor was not practical, so the left central incisor was built up to improve the aesthetics of the anterior region. All of the invasive procedures were performed under prophylactic antibiotic cover according to the advice of her paediatrician. Due to her delayed dental development, orthodontic treatment has not been carried out.

Conclusion

In PKS dental anomalies, such as macrodontia, may be present. The management of this anomaly should be cognisant of the systemic problems and yet able to provide an aesthetic outcome.

Abstract 5

Frequency of fluoridated milk to re-mineralize artificial carious lesions

ONGTENGCO K*, ANTHONAPPA RP, ITTHAGARUN A and KING NM

Paediatric Dentistry and Orthodontics, Faculty of Dentistry, The University of Hong Kong, Prince Philip Dental Hospital, 34 Hospital Road, Pokfulam, Hong Kong SAR, China.

¹DDS (Philippines),

Postgraduate student pursuing an MDS (Year II) in Paediatric Dentistry, Faculty of Dentistry, The University of Hong Kong

Introduction

The need for constant delivery of low concentrations of fluoride has not reached a majority of the socioeconomically deprived sectors of the world. Milk is a universal dietary component that is an effective medium for fluoride delivery. The objectives of this study is to determine whether the frequency (once/twice/alternate days) of treating artificial carious lesions with different concentrations alters the re-mineralizing potential of milk.

Materials and Methods

Artificial carious lesions, (90-180µm deep), were formed in the enamel of buccal and lingual surfaces of extracted molars using a de-mineralizing solution. The teeth were sectioned longitudinally to create specimens that were 100-150µm thick. The sections were then painted with an acid resistant varnish except for the outer surface of the lesion. The specimens were randomly divided into thirteen groups to receive treatment with either: water, plain milk or fluoridated milk (2.5ppm, 5ppm, 10ppm) using a 20 day pH cycling model. Lesion depth and

mineral content (Vmax) for each specimen, before and after the pH cycle were evaluated using polarized light microscopy and microradiography. Paired *t*-test, ANOVA and Student-Newman-Keuls tests were employed to make comparisons within each group and between the different groups.

Results

Fluoridated milk (2.5ppm, 5ppm, 10ppm) significantly reduced the lesion depth and increased the Vmax of the lesions in comparison to the control groups ($p < 0.05$). Specimens treated with 2.5ppm fluoride milk twice daily exhibited a significant reduction in lesion depth in comparison to the specimens treated once daily or on alternate days ($p < 0.05$).

Conclusion

Fluoridated milk has a beneficial effect on the progression of artificial enamel carious lesions compared to plain milk and deionized water. Fluoridated milk (2.5ppm), used twice daily exhibited a greater re-mineralizing potential in comparison to treatment only once daily or on alternate days with the same or a higher concentrations of fluoride.

Abstract 6

Characteristics of impacted maxillary canines in southern Chinese children and adolescents

SAJNANI AK* and KING NM

Paediatric Dentistry and Orthodontics, Faculty of Dentistry, The University of Hong Kong, Hong Kong SAR, China.

*Sajnani Anand Kumar, BDS (Mum), PGDMLS (India)

Postgraduate student pursuing an MDS (Year II) in Paediatric Dentistry, Faculty of Dentistry, The University of Hong Kong

Abstract

Introduction

Maxillary canines are second only to mandibular third molars in the frequency of impaction. Studies conducted in Caucasians to determine the prevalence, gender differences, buccal to palatal impaction ratio and radiographic features revealed differences in the figures for these variables. However, few studies have been conducted to determine the status of this condition in Chinese subjects. Given the paucity of data and the apparent discrepancies in the literature, a retrospective audit was conducted to estimate the prevalence and the status of impacted maxillary canines.

Materials and Methods

The study population consisted of 533 children and adolescents with impacted maxillary canines who were being provided with treatment in the Paediatric Dentistry and Orthodontics Clinic at Prince Philip Dental Hospital, The University of Hong Kong. All available records of the patients were reviewed and analyzed to gather data on the clinical and radiographic characteristics before, during and after treatment.

Results

Of the 533 patients, 82.9% had unilateral impacted canines while 17.1% had bilateral impactions. Furthermore, 49.8% of the impacted canines were located buccally while 43.9% were found palatally. Females (61.4%) were more frequently affected than males (38.6%). Radiographic assessment revealed varied positions of the impacted canines in relation to the adjacent teeth. The nature of the treatment provided and the associated post-operative complications were recorded.

Conclusion

Awareness of the prevalence, presenting characteristics, associated anomalies and techniques for early diagnosis allow for better treatment plans and prediction of the prognosis of impacted maxillary canines.

Abstract 7

A novel approach for the management of an odontome

JAYARAMAN J*, ANTHONAPPA RP and KING NM

Paediatric Dentistry and Orthodontics, Faculty of Dentistry, The University of Hong Kong, Prince Philip Dental Hospital, Hong Kong SAR, China.

*BDS (India), Postgraduate student pursuing an MDS (Year I) in Paediatric Dentistry, Faculty of Dentistry, The University of Hong Kong

Introduction

Odontomes are hamartomatous developmental malformations of odontogenic origin which manifest as denticles, or amorphous masses comprising of all, or some of the dental tissues. They commonly occur in the pre-maxillary region and associated complications include delayed or non-eruption of permanent teeth, retention of the primary teeth and dentigerous cyst formation. Management usually requires both surgical and orthodontic intervention. We describe the spontaneous eruption of an impacted central incisor, associated with an odontome, without surgical intervention in a nine years old Chinese boy.

Clinical management

Clinical and radiographic examinations revealed the presence of an odontome inhibiting the eruption of the permanent maxillary left central incisor. Consequently, the adjacent lateral incisor had tipped mesially to occupy the space intended for the central incisor. A maxillary removable appliance was fitted to distalise the mesially tipped lateral incisor to create space for eruption of the impacted central incisor prior to surgical removal of the odontome. After two months, the lost space was regained. Furthermore; this intervention appeared to initiate eruption of the previously unerupted central incisor despite the presence of the odontome. Subsequently, the regained space was maintained and after seven months, the central incisor erupted spontaneously. Nevertheless, the position of the odontome remains unchanged so the patient is currently under regular review.

Conclusion

It appears that spontaneous eruption of an unerupted tooth associated with an odontome is possible without surgical intervention provided factors such as size and location of the odontome, position of the unerupted tooth and space available are favourable.

Abstract 8

Unusual dental findings in a girl with Russell-Silver syndrome

GOPALAKRISHNAN V.L.*, CHUNG C.W.M. and KING N.M.

Paediatric Dentistry and Orthodontics, Faculty of Dentistry, The University of Hong Kong, Prince Philip Dental Hospital, 34 Hospital Road, Hong Kong SAR, China.

*BDS (India), Postgraduate student pursuing an MDS (year I) in Paediatric Dentistry, Faculty of Dentistry, The University of Hong Kong

Introduction

Russell-Silver syndrome (RSS) is a congenital disorder of unknown aetiology characterised by prenatal and postnatal growth retardation, short stature, limb asymmetry, facial dysmorphism and oral abnormalities. This case report describes the general features, and in particular the dental findings and their significance, in a Chinese girl with RSS who has been followed up at our dental hospital over the past eighteen years.

Clinical management

This patient was referred to our hospital at 13 months of age because of the presence of an unrepaired cleft palate and failure to thrive. Characteristically, her body weight and height were consistently below the 3rd percentile, with her head circumference on the 25th percentile. She also exhibited mental retardation and bilateral hearing loss. Examination revealed frontal bossing with triangular facies and a cleft of the palate. Furthermore, she presented with downturned corners of the mouth and small maxillary and mandibular dimensions. Following closure of the palate, her dental development was reviewed and found to be delayed in both the primary and permanent dentitions. Severe crowding and tilting of the teeth were subsequently

noted in addition to a double tooth in the primary dentition. Panoramic radiographs have revealed two congenitally missing premolars, impacted mandibular first permanent molar, a macrodontic mandibular incisor and some teeth with bulbous crowns and short, fused roots.

Conclusion

Few reports describe unusual dental findings in patients with RSS. Nevertheless, the presence of dental anomalies, especially short roots along with intellectual impairment can limit treatment options, especially orthodontic therapy.