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DENTAL HEALTH MANAGEMENT OF CHILD WITH CEREBRAL PALSY – A CASE REPORT

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ABSTRACT
Cerebral palsy (CP) is a common chronic motor disorder with associated cognitive, communicative and seizure disorders. Children with CP have a higher risk of dental problems creating significant morbidity that can further affect their wellbeing and negatively impact their quality of life. As oral health is increasingly recognized as a foundation for general wellbeing, care givers for CP patients should be considered an important component of the oral health team. This article reports the dental management of twelve year old female patient with cerebral palsy.

KEYWORDS: Cerebral palsy, Dental caries, Root canal treatment.

INTRODUCTION

Cerebral palsy is currently considered the main debilitating condition in a childhood and is one of the major neurological diseases. Cerebral palsy is a common pediatric disorder occurring in approximately 2-2.5 per 1000 live births. It is a chronic motor resulting from a non-progressive insult to the developing brain.[1] The motor disorders associated with CP are often accompanied by disturbances in co-ordination, cognition, communication and seizure disorders. Children with CP are at increased risk of developing dental problems as compared with healthy controls. This can create significant morbidity that can further affect the wellbeing of these compromised children and negatively impact their quality of life.[2]

Cerebral palsy is a condition caused by damage to the brain, usually occurring before, during or shortly after birth. 'Cerebral' refers to the brain and 'palsy' refers to a disorder of movement or posture. Cerebral palsy is a central nervous system (CNS) disorder of movement, coordination and posture, reflecting a non-progressive abnormality or insult to the immature brain. CP is neither progressive nor communicable. It is also not curable, although education, therapy and applied technology can help people with CP lead productive lives.[3] This article presents the dental management of a cerebral patient with spastic diplegia and triple arthrodesis.

CASE REPORT

A twelve year patient old girl belonging to the low socioeconomic group reported to the Department of Pedodontics with pain in lower left back tooth region for the past two days. The pain is intermittent and dull in nature which gets aggrevated at night. The medical history has been revealed with diagnosis of spastic diplegia and triple arthrodesis at the left foot. The familial history is noncontributory. Patient has undergone with delayed milestone and posses waddling gait. Patient has leptoproscopic face and incompetent lip. Intraoral findings revealed with intact permanent dentition with mild calculus deposits all over the teeth, dental caries in 46, 47 and apical periodontitis in relation to 36. OPG shows erupting 32, 33, 42 and 43. As a treatment part oral prophylaxis and composite restoration in 46, 47 done and root canal treatment done in 36 with gutta-percha cone followed by SS crown.

Oral hygiene instructions and counselling has given to the patient and periodically monitored once in two months. Patient is satisfied and maintained the follow up regularly.

Pre-operative

Fig. I: Shows dental caries in 46 and 47 and apical periodontitis in 36.

Post-operative

Fig. II: Shows composite restoration in 46, 47 and RCT followed with SSC in 36.

DISCUSSIONS

CP describes a group of permanent disorders of the development of movement and posture, causing activity limitations that are attributed to non-progressive disturbances that occurred in the developing fetal or infant brain. The motor disorders of CP are often accompanied by disturbances of sensation, perception, cognition, communication, behavior, by epilepsy and by secondary musculo-skeletal problems.[4]

The history of CP is a long one, dating back to ancient Egypt. These are atleast two drawings of individuals from the fifth century BC with what is recognized today as spastic CP. William John Little is credited with the first description of CP in 1843. He coined the term cerebral palsy in 1889. American Academy of CP (AACP) was formed in 1947 and an international workshop on definition and classification of CP was held in Bethesda, Maryland, July 11 to 13, 2004, because of a perceived need to revisit the definition and classification of CP.[5]

The exact etiology can be identified only in 40 to 50% of the cases. Approximately 30% of cases have none of the known risk factors. The condition or risk factors associated with CP can be broken down with those occurring in the prenatal, perinatal or postnatal time period. It has been estimated that upto 70 to 80% of CP cases can be attributed to prenatal factors with birth asphyxia responsible for a smaller number and remainder due to identifiable post natal condtions.[6]

The prenatal risk factors associated with CP included hypoxia, genetic and metabolic disorders, multiple gestation, intrauterine infections, thromophilic disorders, teratogenic exposure, chorio amnionitis, maternal fever, exposure to toxins, malformations of brain structures, intrauterine growth restriction, abdominal trauma and vascular insults. The postnatal risk factors associated with CP include asphyxia, seizures in postnatal period, cerebral infarctions, hyperbilirubinemia, sepsis, respiratory distress syndrome, chronic lung disease, meningitis, postnatal steroids, intraventricular hemorrhage, periventricular leukomalacia, shaken baby syndrome and head injury.[7]

CP is more prevalent among males with a predominance of the spastic form of the disease over the other types. A very low percentage of patients had sought dental treatment prior to 4 years of age. It should be stressed that seeking dental treatment after 4 years of age is considered late. According to a number of authors, this may be attributed to a lack of awareness on the part of parents/guardians regarding the need for and importance of maintaining adequate oral health in these children. Among pediatric patients in general and especially those with CP, the primary dentition phase (from 6 months to 5 years of age) is a very important period from the dental standpoint, in which preventive actions should be instituted early with the aim of preventing harm to the permanent dentition as well as overall health.[8]

The high degree of dependence on the part of the patients was also observed with regard to plaque removal. The prevalence of caries among children with CP in comparison to that found among children in the general population is widely discussed. A number of authors state that CP does not predispose patients to caries or periodontal disease, however socioeconomic and cultural factors influence the occurrence of these conditions, such as lack of orientation regarding the ingestion of cariogenic foods and inadequate oral hygiene.[9]

Children with CP may experience delays in the chronology of tooth eruptions due to nutritional reasons and therefore have fewer experiences with caries. Considering the previously discussed difficulties in this population regarding access to dental services and re-affirming the ideas proposed by other authors, there is a need for investments directed at the development of adequate locations and integrated public oral health programs with multidisciplinary actions for this population as well as for all individuals with disabilities.[10,11]

CONCLUSION

Oral health is increasingly recognized as a foundation for general wellbeing, care givers for CP patients should be considered an important component of the oral health team and must become knowledgeable and competent in home oral health practices. Such practices can significantly affect the child's quality of life and control dental costs.

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