

ORAL REHABILITATION OF PATIENT WITH DEVELOPMENTAL DELAY - A CASE REPORT

Dr. Veena S.*

Associate Professor, Department of Pedodontics, Sri Siddhartha Dental College and Hospital, Tumkur-572107.

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***Corresponding Author: Dr. Veena S.**

Associate Professor, Department of Pedodontics, Sri Siddhartha Dental College and Hospital, Tumkur-572107.

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INTRODUCTION

Global developmental delay (GDD) is an inability to attain developmental milestones within the anticipated age range.^[1,3] It comprises a delay in two or more of the developmental domains: gross and fine motor; speech and language; cognition; personal and social development; and activities of daily living. With a wide aetiology, GDD can have a major impact on growth and development; it may manifest itself in many diverse medical and dental complications, which necessitate the care from several multidisciplinary healthcare professionals. Of relevance to the paediatric dentistry, special needs dentistry, and orthodontics disciplines, this case report provides an example of a paediatric dental patient with GDD that was both severe and significant.^[3,4]

Clinical presentation of GDD may not be uniform, as it depends on the domains affected. Clinical features may include one or more of the following dysmorphic features like short stature, macrocephaly, generalized hair growth anomalies, facial asymmetry, flat facial profile, and midface hypoplasia. Epilepsy is a common finding with children having GDD. Oral findings include drug induced gingival hyperplasia if the child is on medication for epilepsy. Due to motor and cognitive developmental delay, children with GDD also display poor oral hygiene and dental caries commensurate to inadequate plaque control. We here by present two cases of varying intensities of GDD, their oral findings, and behavior management techniques which were applied for dental treatment.^[1,2]

CASE REPORT

A six-year-old boy reported to department with the chief complaint of pain in lower right back tooth region. The child was a known case of global developmental delay with seizure disorder. There was no familial history of any neurological problem. Due to the developmental delay in speech, language, and cognition, a thorough oral examination was not possible. The child's behavior was categorized as negative according to Frankl's behavior rating scale. Since

the child's ability to cooperate was limited due to presence of GDD additionally the child was a known epileptic, the dental treatment was planned. After obtaining necessary consents and clearance from the department of pediatrics and nuerology the child was scheduled for dental rehabilitation under chairside. Oral examination revealed mixed dentition with multiple decayed teeth and poor oral hygiene. The dental treatment including oral prophylaxis, followed by pulpectomy with stainless steel crown was given to lower right second molar(85). GIC (FUJI IX) restoration was given to (75) lower left second molar.

Oral prophylaxis and other treatment was accomplished with behavior management and physical restraining. However owing to uncontrolled tongue movement and instable jaw movements the restorations including stainless steel crown placement were done.

The patient was advised to use powered toothbrushes for maintaining oral hygiene. He was reviewed periodically at every 3 months interval.



Fig. 1: Profile pic of the patient.



Fig. 2.



Fig-3: Gait of the patient.



Fig-4: Post operative Intra oral picture of the patient stainless- steel crown 75.

3. DISCUSSION

As the clinical presentation of GDD may be heterogeneous the oral findings depend on the developmental domains affected.^[1,2] Hence both the treatment needs and behavior management techniques depend on individual case presentation. Developmental domains such as gross/fine motor skills, speech and language, cognitive development, social/personal development, and activities of daily living are affected by GDD.^[1]

Functional motor disability can lead to uncontrolled movements of head and neck and also involuntary movements of tongue that can interfere in delivering optimal dental treatment. Excessive drooling of saliva and poor manual dexterity due to motor disability can also influence the effectiveness of tooth brushing.^[3,4,5] Occupational therapy towards neuromuscular coordination and training can improve the motor disability over time.^[6] Delay or deficiencies in development of speech, language, and cognition definitely act as a hindrance to appropriate delivery of oral care.^[7,8] If social/personal development is affected, the child may not be attending school or may not want to visit a dentist too. The pedodontist should build a good rapport with such children so as to be familiar with the child. Tooth brushing is a routine daily activity; hence if the domain of daily activities remains affected in a child with GDD, they are definitely vulnerable for poor oral hygiene and so it increases their risk for development of dental caries. In such situations powered toothbrushes act as an excellent method for achieving satisfactory plaque control.^[10]

A universal behavior management protocol cannot be adopted for children with GDD. As in our cases, Case was a mild case of GDD with epilepsy with developmental delay in multiple domains. The best management option is for complete dental rehabilitation under local anesthesia on dental chair. Unlike the first case the child in our Case was a mild case of GDD, had no other underlying systemic illness detected, and also was adequately rehabilitated at neurology center. This facilitated chair side oral examination and minimally invasive treatments like oral prophylaxis.

The objective of treatment planning in cases with GDD therefore should encompass the assessment of level of cooperating ability for delivering oral care, a thorough review of the underlying medical conditions, and possible drug therapy for the systemic conditions along with oral health status of the individual.

4. CONCLUSION

Since pediatricians and pedodontist are the first of the health care providers to examine a child for developmental milestones. A careful history and examination can lead to early detection of GDD. Adequate rehabilitation of these children at occupational therapy centers can also enable them to improve the quality of life at large along with their oral health. Hence we emphasize the role of pedodontist in early detection of GDD and helping these children gain better oral and general health.

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