



Dental management of Autistic Child

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Abstract:

Autism is a lifelong, severe, organic disorder characterized by abnormalities in the brain, especially the cerebellum and limbic system. Patients with autism display a variety of levels of understanding and cooperation, so treatment modifications should be patient specific. Children with an autistic disorder may need more dental care and may also be more difficult to treat than healthy children. The purpose of this article is to review the literature of autism with an emphasis on full mouth rehabilitation of a 7 year old autistic child under general anaesthesia.

Keywords: Autism, Dental management

Introduction

Autism is a neurodevelopmental disorder in which special interaction, language, behaviour and cognitive functions are impaired severely [1, 2]. Autism is an organically based neurodevelopment syndrome associated with abnormality of brain structure and function. The number of children diagnosed as having autistic spectrum disorder is increasing. The prevalence of disorder of autism is approximately five to six per thousand in younger children [3].

It manifests during the first 3 years of life [4]. Better understanding of the effect of autism on the behaviour of affected individual helps the dental practitioner to deliver oral health care in an empathetic and appropriate manner [5]. In this case report we discuss the dental management of 7 year old autistic child under general anaesthesia with behavioural problem.

Case Report

A 7 year old male patient of weight 23 kilogram and height 123 cm reported to Department of Paedodontics and Preventive Dentistry of University College of Medical Sciences and Guru Teg Bahadur Hospital with a chief complains of difficulty in chewing food and retained primary front teeth. Patient was a known case of autism, mental retardation and hyperactive seizure disorder with hearing defect and delayed developmental milestones. He was inattentive, did not respond to verbal commands, made bubbling sounds and undefined gestures. His speech was not clear and was hyperactive with repetitive movements. His post-natal history was suggestive of low birth weight (<2000gm), neonatal jaundice, birth asphyxia and delayed development milestones. Patient was using a hearing aid for hearing disability. Psychological testing report showed childhood autism rating scale (CARS) 4, which falls into severe autistic category.[6] Vineland social maturity scale (VSMS) measuring the social intelligence of child was found to be 40 with social age 2 years which is quite low on social domain for children of his age [7]. Family history of consanguineous marriage was positive. Drug history included Phenytoin (200mg), tablet Melatonin (3mg), tablet Clonidine Hcl (0.1 mg) and tablet Oxcarbazepine (7.5mg).

It was difficult for our patient to comprehend instructions and co-operate on the dental chair and hence the treatment was planned under general anaesthesia (G.A) after thorough pre anaesthetic evaluation. Patient was categorized under ASA II. On dental examination under general anaesthesia teeth present were 11 51 53 54 55 21 62 63 64 65 31 73 74 75 41 42 83 84 85. 51 were over retained. Deep caries was clinically evident in 74, 75. Initial carious lesions were seen in 55 and 65. Physiologic mobility was present in 62. Treatment done under G.A included extractions in relation to 51, 62, 74, indirect pulp capping with hard setting Calcium Hydroxide (Dycal, Dentsply USA) and Glass Ionomer Cement (Fuji II GC America) were done in relation to 75. GIC restorations after caries excavation were done in 55, 65, 84 and 85. His post operative recovery was uneventful. The parents were educated on proper oral hygiene measures to be adapted and need for regular dental visit in future.

Discussion

Autism is a behaviourally defined disorder characterized by qualitative impairment in social communication, social interaction and social imagination with a restricted range of interest and often stereotyped repetitive behaviour and mannerism [8]. Autism is not a disease but a syndrome with multiple nongenetic and genetic causes [9]. Nongenetic causes includes prenatal rubella infection, untreated metabolic disorder such as phenylketonuria, anticonvulsants taken during pregnancy, localized lesion as in tuberculosis and post natal infection such as encephalitis [10].

Genetic factor plays a major role in people with autism [11]. There is high concordance rate in monozygotic twins. A three to five time's higher prevalence in males suggests an X-linked mode of inheritance [12]. Multiple genes are likely to be involved and linkage studies have identified possible candidate genes on chromosomes 2q, 7q, 16p and 19p. No specific candidate genes have yet emerged [13].

Children with autism have abnormal levels of serotonin or other neurotransmitters in the brain or have irregularities in several brain regions that affect normal development [14]. There are, however, groups that are at higher risk for autism disorders. These include boys, siblings of those with autism and children with other developmental disorders. There is no prevalence among a specific race, socioeconomic status or parental education level [15, 16]. Epilepsy occurs more commonly than usual in autism and was one of the indications that this was a neurobiological disorder and not one caused by parental behaviour. There is an increased and variable association between autism and epilepsy [17].

Patient with autism will exhibit wide variation in their level of understanding and ability to cooperate during dental treatment [18]. Comprehensive management of autism includes parental counselling, special education in a highly structured environment, speech therapy and social skills training. Determining the presence of dental disease by means other than inspection often is difficult in patients with autism. The patient's inability to communicate effectively often precludes obtaining an accurate dental history. Patients with autism have an increased threshold and that they may endure major pain without complaint [19].

Behaviour problems like hyperactivity and quick frustration can hamper the provision of oral health care, in patients with autism. Also the invasive nature of oral care may trigger violent and self injurious behaviour such as temper tantrums [20]. The full mouth rehabilitation was planned in our patient and executed under general anaesthesia after pre-anaesthetic evaluation. General anaesthesia permits the dentist to perform a comprehensive, unhurried necessary preventive, restorative and surgical treatment in a single appointment [21]. We emphasized the patient's parents need for routine dental check-up and patient was kept under observation for follow up. At 3 months and 6 months follow up the mother reported the correction in anterior cross bite. Treatment rendered also greatly improved his eating habits as he could now chew solid foods. Long-term care includes frequent and effective oral hygiene measures with the help of the parents, application of fluoride gel or rinse, intake of healthy non-cariogenic foods such as cheese, nuts, plain milk and frequent recall appointments.

An autistic patient can often present a considerable challenge to the dentist and staff. The familiarity with the procedure is essential, and when indicated appropriate referral should be made and treatment under GA is relatively safer for management of these patients.

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