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Autism: A Case Report

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Cover Page Footnote

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Autism: A case report

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Abstract

Autism otherwise identified under the DSM 5 diagnostic and statistical classification as an autism spectrum disorder (ASD), is a neurodevelopmental genetic developmental disorder among children, which can affect social communication, changes in sensory aspects, and repetitive, ritualistic patterns of behaviour. The present report describes a case study of a child who was diagnosed with autism. The report follows the child's history from birth until diagnosis and explores the challenges faced by the child and parents to obtain necessary care for the child during the current pandemic situation to raise awareness regarding the condition among health professionals.

Keywords: Asperger's Syndrome, ASD, Autistic Disorder, Autism, Autism Spectrum Disorders, Rett Syndrome, Special children.

Introduction

Autism is a neurodevelopmental disorder and is considered a spectrum disorder due to the variety in the range of symptoms, differences in support required, and individual differences in symptoms (Cerminara et al., 2021; Hiremath et al., 2021). Autism was neglected as a specific diagnosis, assuming the characteristics to be due to developmental delays, which would resolve as the child grows. However, in recent years, due to many developments in health care, there has been increasing awareness regarding autism and both parents and health care professionals are showing interest in the identification and management of the condition. Currently, the Centre for Disease Control (CDC) reports that autism is the second most prevalent developmental disorder being identified in children (Raina, Kashyap, Bhardwaj, Kumar, & Chander, 2015).

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The present report describes the journey of the parents of a child with autism, through identification and management of the child by discussion of the health history, developmental history, the various investigations are undertaken, and the effects of the pandemic on the education and care protocols for the child. The report is an attempt to raise awareness regarding the condition among health care professionals to be prepared to provide care and support for the child and their families.

Case report

The parent of an 11-year-old male child with autism was interviewed to obtain history for the study purposes. The child was diagnosed with severe autism around the age of four at a well-known Neuro unit of a tertiary care hospital.

Family history: The couple had an arranged marriage and did not have any health issues. The family is a nuclear family, living in their own house. They have two sons, the child under study is the first child and he has a younger sibling who is four years old. The father had been recently diagnosed as a diabetic and the paternal grandmother is diabetic and hypertensive. There is no history of any other illnesses in the family. *Prenatal and birth history:* Mother had a normal pregnancy and attended all antenatal clinics regularly. The child was born by lower segment caesarean section (LSCS) after

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40 weeks of gestation when the mother did not have natural labour around the expected date of delivery (EDD). At birth, the child cried normally but was pale and was shifted to the Intensive Care Unit (ICU) immediately for observation. The child's Apgar score is not known and his birth weight was 3.2 kgs. Breastfeed was not initiated immediately and the child remained in ICU for a few days.

Growth and development: The child's growth and development were reported to be delayed. As per reports, there was a slight delay in mental and physical development as compared to normal. A few days after birth, it was noticed that the child was flaccid and at three months of age, the child did not have eye contact with the mother. The child was examined by the family physician and was reported to have a delay in growth and development and the physical examination showed that the fontanelles were closed much earlier. They were advised to go for further evaluation. Over the next three years, the child was taken to various hospitals, spastic centres and prominent paediatricians and underwent several therapies and alternative medicine protocols after which he was assessed and diagnosed as autistic.

Characteristic features: The child does not have proper eye contact with family members or strangers. He does not have sensitivity to sounds and lights. He cannot communicate; he only has babbling at times of excitement. He has toileting issues and is in the process of toilet training but shows some repetitive characteristics, recognized by parents when he must use the toilet. He uses technology (cell phone and television) as per his interests without much assistance. He is interested in music and enjoys listening to some religious songs, old melodies, and rhymes. He also enjoys swimming and playing with puzzles and building blocks. The child is taken out with the family members for family occasions and recreational outings and has been known to adapt with considerable ease. The child prefers to move around on his own but has to be monitored continuously for his safety. The child has been immunized until the date without any side effects.

Investigations: As the child was not hospitalized for any of the evaluative sessions, no specific investigations were done. MRI and nerve conduction tests were done

as part of diagnostic procedures and were returned normal.

Management: The child underwent various therapies like occupational therapy, and alternative medicine protocols including Ayurveda, Siddha, Homeopathy, and Acupuncture in healthcare centres and institutes in the local area and places in south India. The child was admitted to a special school after diagnosis and follows a structured program that is carried out both at school and home. The program includes yoga, acupuncture sessions, and activities of daily living. No medications are given to the child and any common health issues are managed by home remedies and acupuncture. As the family had seen improvement in his condition with acupuncture, the father has done his higher education in Acupuncture to assist in the child's health and wellbeing. All care for the child is being given by the family and there has been no specific indication of institutionalization for the child.

Current health status: The child shows marked developmental delay, both physical and mental. However, he has no other health issues and was following a scheduled routine. Due to the current pandemic situation, the child is unable to go to his school and the burden of teaching both the children is placed on the parents. There has been a change in the routine to which the child has shown positive signs of adapting. The parents however have not been able to take the child out for recreation and are challenged to invent activities for the child to indulge in.

Discussion

Autism or ASD is a "neurodevelopmental disorder". The worldwide prevalence is about one in 59 children and India being the second most populated country accounts for about one in 1000 children with autism (Hodges, Fealko, & Soares, 2020; Solomon-Calvin & George, 2021). Autism is typically diagnosed when parents find a difference in the normal growth and development as compared to the other children in the family, friends, and acquaintances or when the child starts preschool. Symptoms may be identified around the age of three and may only be tested if it is recommended by the clinic or school (Constantino et al., 2020; Keehn et al., 2020; van 't Hof et al., 2021).

In this case report, the child was diagnosed at the age of four years though some signs of developmental aberrations were recognized earlier in life.

There was no identified cause for autism in this child and there were no side effects of any immunizations that were given. Although there is no common agreement for the exact cause of autism, the most common causes of autism are considered factors relating to genetics and the environment (Arnett *et al.*, 2020; Hodges *et al.*, 2020). Some literature also points out vaccination as a cause of ASD (Fombonne *et al.*, 2020; Goin-Kochel *et al.*, 2020).

Diagnosing a child as autistic can entail many barriers including social and cultural. Most children are misdiagnosed and considered to have developmental disturbances. For proper evaluation to be undertaken, multiple areas of functioning have to be considered before diagnosing the child. It includes in-depth interviews and history collection from the parents and caregivers, eliciting information regarding the child's development, and observing the responses and application of various appropriate screening and assessment tools to identify the characteristic features (Arnett *et al.*, 2020; Benedetto *et al.*, 2021; Berger *et al.*, 2021; Jang *et al.*, 2021; Mackie *et al.*, 2021). The formal diagnosis of this child was done at the age of four and all required tests were done to eliminate all differential diagnoses.

Studies have shown that ASD is a condition that has a wide range of symptoms and may have a variety of additional physical and psychological effects that may require care from different professionals and in various health care settings. Some of the associated conditions may have certain symptoms that may require medications. Some forms of ASD may require various therapies including modifications in diet and behaviours. Early identification and treatment can lead to significantly better outcomes and help in improving the quality of life of the children and enable them to lead a significantly near-normal life with a reduced amount of supportive care (Dallman, Artis, Watson, & Wright, 2021; Kent, Cordier, Joosten, Wilkes-Gillan, & Bundy, 2021; Oshima *et al.*, 2020; Pistollato *et al.*, 2020; Zhou *et al.*, 2021). The child underwent clinical

screening and had identified symptoms that enabled the diagnosis along with the tests done.

Although numerous treatment modalities have shown various outcomes in different children diagnosed with autism. There is no single confirmed mode that can give the best outcome. Studies have confirmed that acupuncture was effective as well as safe in the management of autism when combined with other selected methods of rehabilitation and care. Studies also showed that some specific symptoms relating to brain dysfunction have been satisfactorily alleviated by applying acupuncture (Wang *et al.*, 2021; Wang, 2021; Zhang *et al.*, 2021). In this child under review, acupuncture has been used as the primary alternative treatment and has been showing promise in his care.

In the wake of the COVID-19 pandemic that has been affecting lives, children and their lives and education have taken a huge blow. They have been forced to adapt to various changes in education, lifestyle and have had to grow up to situations which they may not be able to fully comprehend (Solomon-Calvin, 2021). In times such as these, children with autism also have experienced certain difficulties due to the suspension of schools and health care routines. Families are facing challenges in maintaining a near-normal routine for their children in addition to the changes in their functioning (Bellomo, Prasad, Munzer, & Laventhal, 2020). The child and the family had to make viable adjustments in their routines to adapt to the needs of all the family members. Since both parents were available at home to support the children during the pandemic period, activities were planned for both of them and incorporated into their regular routines.

Conclusion

With the development and improvement of facilities for the identification and management of autism, the prognosis is much better than in previous years. However, the fact that autism is a condition that at times may require multi-disciplinary care is yet a challenge that can only be tackled with a more developing interprofessional involvement. Most children are growing up to perform most of their activities of daily living and depending on the severity of their condition, transition to adult life and jobs is also seen to be possible with adequate advocacy and care.

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