

Ayurvedic Management of Autism - A Single Case Study

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Abstract

A five years old known case of Autism Spectrum Disorder (ASD) is being treated with integrative approach with the combination of Ayurvedic medicines and panchakarma procedures. Patient was taking occupational and speech therapy more than one year with very little improvement in symptoms. Ayurvedic panchakarma procedures such as Nasya therapy (administration of medicines through nose), Rajyapana Basti (medicated enema) along with some Ayurvedic medicines orally. ISAA score and symptoms of patient were assessed every 15 days for 3 months. Patient had shown substantial improvement in social communication, language, eye contact, hyper activeness.

Keywords: Autism spectrum Disorder • ISAA • Ayurveda

Introduction

Autism Spectrum Disorder (ASD) involves refraining social communication, repetitive behaviour and constrained activities [1]. In some cases there may be a genetic condition. ASD begins before the age of 3 years and can last throughout a person's life [2]. In some cases with ASD, the young ones attain new skills and grow well as per milestones up to age of 18 to 24 months and then suddenly stop further development [3]. The children with ASD may have difficulties evolving and retaining friendships, communicating socially or understanding what behaviours are expected in school or outside [4]. Prevalence of autism is ~1% globally which is accepted by WHO [5]. In India, as per the report by Choudhari KS, et al. [6] ASD prevalence across five States in north and west India was as high as one in 125 children between 2-6 years age group and one in 80 among children in 6-9 years age. In India the prevalence is estimated to be 1 in 89 [7]. "Autism is a neurodevelopmental disease that has not been directly mentioned in Ayurvedic Samhitas though some Ayurvedic physicians correlate it with unmaada as there is a similarity in symptoms [8]. ISAA is the Indian scale For Assessment of Autism in Indian children [9,10]. We hereby report a case of Autism assessed by ISAA and treated based on Ayurvedic fundamentals.

Case Presentation

Patient information

A five years old boy was brought by his mother to D Y Patil School of Ayurveda Outdoor Patients Department of Kaumarbhritya (Ayurvedic Paediatrics), Navi Mumbai, India. The mother reported that the child was unable to concentrate, not paying attention to the instructions, making unnecessary noises and shouting, no initiation of social interaction, poor eye contact, failure to respond if called out by his name, impaired body postures and gestures, not following toilet training, constipation, temper tantrum since 10 months.

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Case history of the patient

The patient was the second child of non-consanguineous marriage. Patient was born at full-term baby through vaginal delivery weighing 2600 gms. Child cried immediately after the delivery. He was on exclusive breast feeding for 7 months. Weaning was started at the age of 4 months. Immunization schedule was given as recommended by IAP (Indian Association of Pediatrics).

Motor development was normal, delayed language and social development was observed. According to mother child did not respond to commands or name calling. He did repetitive stereotypic movements. His sleep was disturbed and he continuously made different sounds. He was always fibbing with something. He never used to sit at one place. His concentration span was not more than 5 min. The patient watched mobile more post corona. The parent reported that they used to calm him down with mobile screening.

Clinical findings

On examination the child was moderately built and nourished. His growth percentile was 75. He was hyperactive and irritable and had poor eye contact. He was producing shrieking sound repeatedly. He did not respond to any instructions. Even after giving some toys he refused to play. Growth parameters and vital signs were within normal limits. No abnormality was detected in respiratory system. The cranial nerves, motor system, reflexes, sensory system and gait were normal with absence of cerebellar abnormal signs.

Timeline

The patient had developing symptoms such as child is unable to concentrate, not paying attention to the instructions, making unnecessary noises and shouting, no initiation of social interaction, poor eye contact, failure to respond if called out by his name, impaired body postures and gestures, not following toilet training, constipation, temper tantrum since 10 month. The timeline of clinical events in the case is described in Table 1.

The investigations revealed that his haemoglobin was 12.5 gm%, Vit D (25 hydroxy D) was 22 ng/ml serum calcium was 9.2 mg/dl. There was no abnormality reported in urine and stool. Auditory test (BERA) was done and shows no abnormality.

Diagnosis assessment

The ISAA score of patients at baseline was 122. ISAA is Indian Scale for Assessment of Autism.

Intervention

The child was given Musta (*C. rotundus*) churna 125 mg with Shunthi (*Z officinale*) churna 25 mg twice a day for 5 days. Normal regular vegetarian diet was advised. The mother was told not to give oily spicy food, junk food and aerated drinks. Also Screen time was strictly reduced to 30 min per day. After

Table 1. Ayurvedic management of the case of autism spectrum disorder.

Intervention	Details of Intervention	Dose	Anupan	Duration of Treatment
Deepan and Pachan	Musta+sunthi choorna	125 mg musta and 25 mg Shunthi	Luke warm water	5 days
	Bramhi ghana vati	125 mg	Luke warm water	Twice a day
After 5 Days	Jyotismati +bramhi+sankhapuspi churna	125 mg	Honey	Twice a day
	Yastimadhu ghritha	5 ml	Luke warm water	Once a day
Upakrama	Vacha churna	-	Jihwa Pratisaran	
	Abhyang	-	Ksheerbala taila and Brahmi taila	7 days
After Achieving Niram Avastha	Swedan	-	Dashmool kwath	7 days
	Yapana Basti	-	Aswagandha +kutaj+sariva	8 days
	Shiro dhara	-	Ksheerbala and Bramhi Taila	15 days

5 days, Yastimadhu (*G. glabra*) ghritha 5 ml warm was given once a day. Bramhi ghana vati 125 mg twice a day with warm water was given in powdered form. A mixture of Jyotismati (*C. paniculata*), Bramhi (*B. monneri*), Sankhapuspi (*C. pleuricaulis*) 125 mg was given two times a day along with honey for 30 days.

The patient was advised for jihwa pratisaran (application of mixture on the tip and side of tongue) with Vacha choorna (*A. calamus*) for 15 days. The child was given Abhyangam (full body massage) with Ksheerbala tailam and Nadisweda (fomentation) with Dashmool kwath for 7days. After which Rajayapana Basti was given for 16 days. Basti is the administration of medicines through anal route. 20 ml of basti (medicated enema) was given through anal route daily morning at 10 in the morning for 16 days. Shirodhara (continuous dripping) of Bala (*S. cordifolia*) oil and Brahmi (*B. monneri*) oil in equal proportion was given for 10 min for 15 days. The screen time for patient was restricted to half an hour daily. Patient was advised to continue occupational and speech therapy along with all medication.

Follow up

The Assessment Scale for Autism (ISAA) was done on the first day (Baseline) and later 30th, 60th, 90th day. All vital parameters were normal. The patient was followed up for all symptoms every 15 days. The child had malakathinya (hard stools) and passed stools once in two days earlier. After treatment from third day, he started passing the stools twice a day. The sleep improved in 15 days. The patient started responding after calling his name in 15 days. After 30 days, patient also started answering to the question as what is his name. After 60 days child was able to say A to Z letters and could point out different pictures when asked about them. In 90 days child started interacting with peers happily. The hyperactivity was reduced post 30 days of treatment. In 90 days, the child's concentration span increased from 5 min to almost 15 min [11].

Discussion

After 90 days of treatment the autism score was gradually decreased from 122 to 99. As per Charakacharya any disease can be treated when dosha dushya samurchana (Configuration of Dosha and the vitiated tissues and systems involved) and samprapti (Pathogenesis) is known [12]. We developed a protocol following Ayurvedic Fundamentals (Chikitsasutra) to manage this case of autism. Vata prakopa causes irrelevant speech (Udan vayu) [13] and hyperactivity (Vyan vayu). Medha (intelligence and wisdom, concentration) is disturbed when pitta gets vitiated [14]. The neurodevelopmental changes can be attributed to vitiated Vata and Pitta. Annavaha (Digestive system), Rasavaha (lyphatic) and Monovaha srotas (neurobehavioral) are involved.

Musta (*C. rotundus*) in addition to its action on digestion and metabolism; also acts as neuroprotective which has been confirmed experimentally [14,15]. Shunthi (*Z. officinale*) is also antioxidant and anti-inflammatory [15].

Bramhi (*B. monneri*) is a well-known medhya rasayan that enhances cognitive functions [16]. Earlier Choudhari KS, et al. [6] have reported significant improvement in cognitive function including memory of medical students in a 6 weeks randomised double blind placebo controlled study. In another *in-vivo* model of Autism Spectrum Disorder in rats; where Brahmi extract showed significant improvement in abnormal behavioural patterns such

as social deficits, repetitive behaviour, learning and memory impairments, and motor coordination [17]. Yastimadhu ghritha 5 ml was given once a day. Yastimadhu (*G. glabra*) is also medhya as well as is good for language and speech development [18]. It has been proven for nootropic activity [19]. Patient has delayed language development. Vacha churna was given as jihwa pratisarana. (local application on tongue). Vacha (*A. calamus*) is Dipaniya, (helps to increase appetite) Medhya, (Memory concentration, intelligence) Kanthya specifically for language development. Acorus calamus methanolic extract significantly reversed stereotypical behaviour and catalepsy in mice [20].

Vata is tantyantadhara which means the controller of all movements [21]. In autism there is a prakopa (vitiating) of Vata. Basti (administration of medicines through anal route) is the best treatment for vata prakopa [22]. Earlier Shailaja U, et al. [23] have reported excellent results with yapana basti in understanding ability, speech and in fine motor functions. Patient was also given shirodhara with Bramhi taila and Ksheerbala taila. Shirodhara is a method where oil or any medicated liquid is dripped over a forehead in a continuous stream. Earlier Dhuri and Vaidya had given shirodhara and found excellent results in alpha and theta waves in EEG mapping post shirodhara indicating its stress reducing activity [24].

Parent perspective

The parent reported that his hyperactivity is reduced and his concentration span which was five minutes has increased up to fifteen minutes. The child started sitting at one place for more than an hour. Earlier the child was denied the admission in the school. The same school happily gave the admission for this child.

Conclusion

Autism has seen to be increased post corona periods may be because of increased screening time. The earlier the diagnosis, better are the chances of improvement. Following basic fundamentals (Chikitsasutra) of Ayurveda can give good results. Single-case reports provide the leads to large group randomized studies. This case can give a hope to further research in this area.

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Nil.

Conflicts of Interest

There are no conflicts of interest.

Declaration of Patient Consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the parents have given their consent for his images and other clinical information to be reported in the journal.

The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Credit Author Statement

KD treated the patient. DDD analysed and interpreted the data. KD and DDD drafted the article. KD helped in editing.

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