INTERNATIONAL
AYURVEDIC
MEDICAL JOURNAL

IAMJ

Case Report (ISSN: 2320 5091) Impact Factor: 4.018

AN AYURVEDIC APPROACH TOWARDS ATTENTION DEFICIT HYPERACTIVITY DISORDER – A CASE STUDY

Aswathy Y S[1], Arun M[2]

[1]BAMS- Amrita School of Ayurveda, Clappana, Kollam, Kerala, India
[2]M.D Scholar, IPGT&RA, Gujarat Ayurved University, Jamnagar, Gujarat, India

Email: aswathyys24@gmail.com

ABSTRACT

Abstract: Attention Deficit Hyperactivity Disorder is considered as one among the neurobehavioral disorder which is characterized by inattentiveness, over activity or inability to control the behaviour which is not appropriate to a person's age. The paper gives a light that it is not a disease but a group of abnormal behaviour which can be brought under control by a combination of Ayurvedic medicines, yogic therapy and counselling as well. This case report gives all the details about a 12 year old boy who was diagnosed with Attention Deficit Hyperactivity Disorder(whose IQ was average), and the way of Ayurvedic approach which was incorporated in him by two rounds of IPD admission with a gap of 10 months along with internal medication. An appreciable remark was noticed by the parent during the period of 10 months which is mentioned in the checklist provided to them.

Keywords: ADHD, Hyperactivity, Inattentiveness

INTRODUCTION

Attention deficit hyperactivity disorder (ADHD) is a mental disorder of the neurodevelopment type. It is characterized by problems paying attention, excessive activity, or difficulty controlling behaviour which is not appropriate for a person's age. These symptoms begin by age six to twelve years, are present for more than six months, and cause problems in at least two settings (such as school, home, or recreational activities) [1]

Interpretation of prevalence studies is complicated by significant changes to the diagnostic criteria for ADHD for the past 30 years, culminating in the current definition specified in the Diagnostic and Statistical Manual of Mental Disorders, fourth edition (DSM-IV) [2]. The guidelines acknowledge that there is no objective test or identified aetiology for ADHD and that diagnosis relies on subjective criteria. Paediatricians are directed to assess for "co morbid-

ities,' such as major affective disorders and learning problems [3]

The DSM-IV defined 3 nominal subtypes of ADHD, based on differential elevations on 2 dimensions of inattention symptoms and hyperactivity-impulsivity symptoms. The predominantly inattentive type (ADHD-I) describes individuals with maladaptive levels of inattention, but not hyperactivity-impulsivity; the predominantly hyperactive-impulsive type (ADHD-H) is characterized by maladaptive levels of hyperactivity-impulsivity, but not inattention; and the combined type (ADHD-C) describes individuals who exhibit significant symptoms of both inattention and hyperactivity-impulsivity. [4]

In Ayurveda neither this disease nor the symptoms of ADHD are described but some references about abnormal behavior are discussed under features of *Vata Prakriti, Anavasthita Chittatva(*restlessness due to *vata* vitiation*) Mano Vibhrama, Buddhi Vibhrama, Smriti Vibhrama, Sheela Vibhrama, Cheshta Vibhrama*, and *Achara Vibhrama (*all meaning impairment of right mental faculties) and can be correlated with ADHD [5][6]

According to Ayurveda, the main reason for ADHD is vitiation of *Dhee* (rational thinking), *Dhriti* (retaining power of the mind), *Smriti* (memory) which causes abnormality and abnormal conduct resulting into improper contact of the senses with their objectives and give rise to inattention, hyperactivity and impulsivity. To understand the aetiology of ADHD in *Ayurveda*, it's important to understand the two *doshas* involved in memory. These are *Prana Vata*, which governs the brain, sensory perception, and the mind; *Sadhaka Pitta*, which governs the emotions and their effect on the functions of the heart. [7]

Materials & methods

A case was enrolled in IPD of *Kaumarabhritya* department in Amrita School of Ayurveda , Kollam, Kerala and subjected to 2 weeks *Panchakarma* procedures ,internal medication along with *Pranayama* and follow at a gap of 1 month and a second IPD admission after 9 months. Classical texts of Ayurveda and modern texts including internet, were used as source material in the study.

Diagnostic criteria:

1. DSM IV ADHD diagnostic scale
2. Clinical assessment of this case includes taking a standard medical, family, developmental, dietetic, nutritional history along with general and suitable systemic examination.

Case Report

A mother with her 12 year old boy visited the OPD with the complaints that her child suffers from lack of concentration and difficulty in studying and memorizing since 4 years. She noticed severe irritability by about 4 years of age and thought to be of his age. But as time progressed his condition worsened. The child started to react violently even for silly reasons. He speaks incoherently and even deviates from the topic being spoken. He doesn't respond to questions being asked. It became difficult for him to perceive many matters and act accordingly. He claims that he gets easily bored during studying and even during writing exams. His teacher complained of his poor scholastic skills. He often gets deviated to sounds which are heard outside the class. Once he tried even to injure his classmate. He also feels sleepy while studying. There is no perpetuation. He is interested in playing Mridhangam. He goes with peer group when he is in a good mood to play but if

he is not interested at a particular time he stays back and sit alone. When the quantum of studies increases he scores digit mark for examination and study load is less he score well. For all this complaints he was brought to the hospital for furtherance of management.

A detailed history of the child was taken. Birth history did not specify anything to be suspected. The prenatal history denies consanguinity of parents, hyper emesis, hypertension, gestational diabetes, pre eclampsia, spotting, bleeding or any other serious issues during antenatal period.. She also refuses any history of stillbirth or abortion. The antenatal period of mother went uneventful followed by full term normal vaginal delivery and the child weighing 3.9 kg cried soon after birth. The mother denied any kind of delay in passing of urine and meconium with no history neonatal jaundice, seizures. Gross motor skills, fine motor skills, language skills and social developments were attained on time. No developmental retardation was noticed. The child was exclusively breast fed for six months and continued till 2 and half years. Weaning started from six months of age with diluted cow's milk, raggi and homely food. He was properly immunised on time. His family history was negative in the regards of it wherein all the members are said to be physically and psychologically well

Table 1: Higher Mental Functions were examined in detail to rule out any Central nervous system malfunctioning. HMF examination proved that he was normal but slow.

HMF tested	Examinations & Remarks
• Consciousness	Alert, conscious about surrounding and self
• Attention and concentration	• Attentive while talking with others • Gets distracted during study time Tests done: ➢ Alphabet repetition- good ➢ Word repetition - good ➢ Number repetition -good
Appearance	: good well dressed ,clean
Facial expression	normal
Behaviour(a particular portion from his textbook was asked to read out)	irritable(after half an hour of reading)
Language Comprehension	➢ Body part identification : good / normal ➢ Two ideas comprehension : normal (boat and stone sink) ➢ Numbers, colors identification :normal
Expression of speech	➢ Fluency : normal ➢ Prosody: absent (loss of melodic aspect of speech)
Reading	➢ Oral : normal ➢ Symbol: normal ➢ Words: normal ➢ Sentence: normal ➢ picture matching : normal
Writing	➢ Narrative writing : normal ➢ Mechanical writing:normal ➢ First level dictation : normal

Thought	➢ Ideas : present (good ideas) ➢ Derailment :not present (loss of association)
Memory	➢ Short term memory : present ➢ Remote memory :present
Calculation	➢ Mental arithmetic: good
Abstract thinking	➢ Similarities : normal (cauliflower and cabbage , apple and orange) ➢ Proverb interpretation : absent
Conceptual ability	➢ A,C,E,__ {normal} ➢ 2)1,4,7,__ {normal}
Judgement	➢ good (how to cop up with situation)

Investigations:-

Both CT Scan MRI scan were suggestive of normal impression. IQ test and memory test were also done after first course of IPD treatment, and based on NIMHANS index of specific learning disabilities he has no signs of learning disabilities

*IQ – 91

* Intelligence – average

Table 2: Management Plan during first IPD admission 30/6/16-13/7/16

	Line of treatment	No. of days taken	Medication used	Dosage
1.	*Deepana & Pachana*	2 days(30/6/2016 and 1/7/2016)	• *Abhayarishta*	15 ml Twice daily After Food
			• *Pippalyasavam*	15 mL twice daily After Food
			• *Indukantham Kashayam*	20 mL + 30 mL lukewarm water twice daily before food
2	*Snehapana*	7 days(2/7/16-8/7/16)	• *Mahakalyanka Ghrita*	Started with 50 mL followed by 75ml on second day of snehapana, continued with 100 mL till 8th day of *Snehapana*
3.	*Mridu Virechana*	1 day(9/7/16)	• *Avipathi Choorna*	3 tsp with honey early morning
4.	*Shirolepa*	7 days	• *Brahmi* • *Mandukaparni* • *Vacha* • *Yashtimadhu*	External application over head

Table 3: Follow up interventions (2nd IPD admission ON 4/4/2017 – 21/4/2017)

	Line of treatment	No. of days taken	Medication used	Dosage
1	*Deepana & Pachana*	4 days (4/4/17-7/4/17)	• *Gandharvahasthadi Kashayam*	20 mL with 40 ml lukewarm water twice daily before food
			• *Hinguvachadi Gulika*	(2-0-2) Before food
			• *Abhayarishtam*	30 mL twice daily after food
2	*Mridu Virechana*	1 day (8/4/17)	• *Avipathi Choorna*	4 tsp with honey followed by hot water
3.	*Samana Snehapana*	7 days (9/4/17 – 15/4/17)	• *Mahakalyanaka ghrita*	75 mL at night

4.	*Shirolepa*	7 days	• *Jadamayadi choorna* • *Brahmi* • *Vacha* • *Madhuka* • *Shankapushpi*	External application over head

DISCUSSION AND RESULTS

In ADHD the *Prakupita Vata Dosha (Prana,Udana and Vyana)* affects *Manoarthas* and *Manokarmas* and in turn leads to inattention, hyperactivity and impulsivity. So the main mode of treatment is to bring *Prakupita Vata Dosha* back to normalcy and proper maintenance of *Agni*. The medicines used here helped for *Ama Pachana* as well as *Agni Deepana* along with bringing back of *Prakupita Vata Dosha* back to normalcy. Ayurvedic therapies that will treat *Vata* both in the mind and nervous system and to cleanse *Ama* were administered to the patient. Treatment includes *Vata-Pitta* pacifying herbs and *Medhya Rasayanas* substances which improve cognitive function), such as *Brahmi, Mandukaparni, Yashtimadhu, Vacha, Jatamansi, Shankapushpi* etc. to control inattention, hyperactivity, impulsivity, and distractibility. Here we used the above said as external application. Ayurveda recommends ingestion of Ghee to stimulate the *dhi* (the power of acquisition or learning), *Dhriti* (the power of retention), and *Smriti* (the ability to recall) *Mahakalyanaka Ghrita* was administered as *Snehapana.*

A checklist [8] was given to the patient's mother during the first admission before the course of treatment as well as during the second admission after the course of treatment with a gap of 10 months.

CONCLUSION

From this study it can be concluded internal administration of Ayurvedic medicines along with *Panchakarma* procedures and external therapies are effective in alleviating the symptoms of ADHD. No adverse effects of the study drug were observed during the study.

REFERENCES

1. https://en.wikipedia.org/wiki/Attention_deficit_hyperactivity_disorder
2. Diagnostic and Statistical Manual of Mental Disorders. 4. Washington, DC: American Psychiatric Association; 1994.
3. Lydia Furman. What Is Attention-Deficit Hyperactivity Disorder (ADHD) J Child Neurol. 2005;20(12):994-1003
4. Willcutt, Erik G. "The Prevalence of DSM-IV Attention-Deficit/Hyperactivity Disorder: A Meta-Analytic Review." Neurotherapeutics 9.3 (2012): 490–499.PMC. Web. 17 Oct. 2017.
5. CharakaSamhita (1999) edited by Tripathi BN Hindi commentary Vidyotini; Nidanasthana (vol. 1) ChaukhambhaSurabharati Prakashan, Varanasi, India; Verse No. 7/5.
6. Meenakshi Gupta, Madhu Singh. Recent Researches on Ayurvedic Herbs In the Management of Attention Deficit Hyperactivity Disorders (ADHD) In Children. J of Ayurveda and Hol Med (JAHM).2014;2(9):52-55.
7. Meenakshi Gupta, Madhu Singh. Recent Researches on Ayurvedic Herbs In the Management of Attention Deficit Hyperactivity Disorders (ADHD) In Children. J of Ayurveda and Hol Med (JAHM).2014;2(9):52-55.
8. American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders. 4th edition. Washington DC: AmericanPsychiatric Assocation; 1994.

Before Treatment (Checklist according to American Psychiatric Association)

Appendix 1: ADHD Rating Scale

ADHD Rating Scale

Child's Name: X Age: 12 yrs Date: 30/06/2016

Completed By: Mrs. Maya Parent ✓ Teacher__ Other __

For each line below, please put an "X" in the box that best describes the child's behaviour over the last 6 months

	BEHAVIOUR	Always or very often	Often	Somewhat	Rarely or Never
Inattention	Fails to give close attention to details or makes careless mistakes in schoolwork/homework.		✓		
	Has difficulty keeping attention on tasks or play activities.			✓	
	Does not seem to listen when spoken to directly.			✓	
	Does not follow through on instructions and fails to finish schoolwork or chores.			✓	
	Has difficulty organizing tasks and activities.		✓		
	Avoids or strongly dislikes tasks that require sustained mental effort (e.g., homework)		✓		
	Loses things necessary for tasks or activities (e.g., pencils, books, toys, etc).			✓	
	Is easily distracted by outside stimuli.		✓		
	Is forgetful in daily activities.			✓	
	TOTALS for Inattention				
Hyperactivity and Impulsivity	Fidgets with hands or feet or squirms in seat.	✓			
	Leaves seat in situations in which remaining seated is expected (e.g., dinner table).	✓			
	Runs about or climbs in situations where it is inappropriate.	✓			
	Has difficulty playing quietly.		✓		
	Is "on the go" or acts "driven by a motor."		✓		
	Talks excessively.	✓			
	Blurts out answers to questions before the questions have been completed.		✓		
	Has difficulty awaiting turn.		✓		
	Interrupts others or intrudes on others (e.g., butts into games)	✓			
	TOTALS for Hyperactivity and Impulsivity				

Were some of these behaviours present *before* age 7? Yes __ No __ Unsure __ N/A __

Sources: (1) American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders. 4th edition. Washington DC: American Psychiatric Association; 1994. (2) ICSI Guidelines. Diagnosis and management of attention deficit hyperactivity disorder in primary care for school age children and adolescents Available from: URL:http://www.guideline.gov/ (accessed November 2007). (3) El Camino Pediatrics Available from: URL:http://elcaminopediatrics.com/forms_medrecords_childattentionprofile_pf.htm (accessed November 2007). (4) Morrison D. Off-task and fidgety. An update on ADHD. The Canadian Journal of CME 2003; February:79-85.

After Treatment (Checklist according to American Psychiatric Association)

Appendix 1: ADHD Rating Scale

ADHD Rating Scale

Child's Name: x Age: 12 yrs Date: 21/04/2017

Completed By: Mrs. Maya Parent ✓ Teacher__ Other __

For each line below, please put an "x" in the box that best describes the child's behaviour over the last 6 months

	BEHAVIOUR	Always or very often	Often	Somewhat	Rarely or Never
Inattention	Fails to give close attention to details or makes careless mistakes in schoolwork/homework.				✓
	Has difficulty keeping attention on tasks or play activities.				✓
	Does not seem to listen when spoken to directly.				
	Does not follow through on instructions and fails to finish schoolwork or chores.			✓	
	Has difficulty organizing tasks and activities.		✓		
	Avoids or strongly dislikes tasks that require sustained mental effort (e.g., homework)		✓		
	Loses things necessary for tasks or activities (e.g., pencils, books, toys, etc).				✓
	Is easily distracted by outside stimuli.			✓	
	Is forgetful in daily activities.				✓
	TOTALS for Inattention				
Hyperactivity and Impulsivity	Fidgets with hands or feet or squirms in seat.			✓	
	Leaves seat in situations in which remaining seated is expected (e.g., dinner table).			✓	
	Runs about or climbs in situations where it is inappropriate.		✓		
	Has difficulty playing quietly.		✓		
	Is "on the go" or acts "driven by a motor."		✓		
	Talks excessively.	✓			
	Blurts out answers to questions before the questions have been completed.			✓	
	Has difficulty awaiting turn.		✓		
	Interrupts others or intrudes on others (e.g., butts into games)		✓		
	TOTALS for Hyperactivity and Impulsivity				

Were some of these behaviours present *before* age 7? Yes __ No __ Unsure __ N/A __

Sources: (1) American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders. 4th edition. Washington DC: American Psychiatric Association; 1994. (2) ICSI Guidelines. Diagnosis and management of attention deficit hyperactivity disorder in primary care for school age children and adolescents Available from: URL:http://www.guideline.gov/ (accessed November 2007). (3) El Camino Pediatrics Available from: URL:http://elcaminopediatrics.com/forms_medrecords_childattentionprofile_pf.htm (accessed November 2007). (4) Morrison D. Off-task and fidgety. An update on ADHD. The Canadian Journal of CME 2003; February:79-85.

Source of Support: Nil
Conflict of Interest: None Declared

How to cite this URL: Aswathy Y S & Arun M: An Ayurvedic Approach Towards Attention Deficit Hyperactivity Disorder – A Case Study. International Ayurvedic Medical Journal {online} 2018 {cited February, 2018} Available from: http://www.iamj.in/posts/images/upload/500_506.pdf