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AN AYURVEDIC APPROACH TO ALCOHOL USE DISORDER- A CASE REPORT

Rashma S[1], Satish B.N[2], Byresh A[3]

[1]MD Scholar, Dept., of Kayachikitsa, [2]Reader, Dept., of Dravyaguna
[3]Professor & Guide, Dept., of Kayachikitsa
Sri Kalabyraveshwaraswamy Ayurvedic Medical College, Hospital &Research Centre, Bengaluru, Karnataka, India

Email: dr.rashma.1991@gmail.com

ABSTRACT

Alcohol Use Disorder or Alcoholism is defined as repeated alcohol related difficulties in at least 2 of 11 life areas that cluster together in the same 12-month period. The life time risk of an Alcohol Use Disorder in most of the countries is 10-15% for men and 5-8% for women, because many drinkers occasionally imbibe to excess. Temporary alcohol related problems are common in non- alcoholics, especially in the late teens to the late twenties, however repeated problems in multiple life areas can indicate an Alcohol Use Disorder. Alcohol Use Disorder in *Ayurveda* can be understood in the perspective of *MADATYAYA*. The clinical presentation and *Dosha Dushya Sammurchana* should be analyzed and treatment is planned. Here a case of 30-year-old male presented with tremors in hands, generalized weakness, nausea provisionally diagnosed as a case of Alcohol withdrawal syndrome was subjected to *MadatyayaChikitsa* along with *Shamanoushadhis and Satwawajaya chikitsa*. The outcome was very encouraging with the patient able to do his activities of daily living without any difficulty.

Keywords: Alcohol Use Disorder, *Madatyaya*, Tremor, Satwawajaya

INTRODUCTION

Alcohol (beverage ethanol) distributes throughout the body, affecting all systems and altering nearly every neurochemical process in the brain. This is likely to exacerbate most medical problems, affect medications metabolized in liver, and temporarily mimic many medical and psychiatric conditions. Although low doses of alcohol have health benefits, greater than 3 standard drinks (75ml) per day enhances the risk for cancer and vascular disease and decrease the life span by about 10 years.[1] Alcohol Use Disorder/ Alcoholism is defined as repeated alcohol related difficulties in at least 2 of 11 life areas that cluster togeth-

er in the same 12 month period. The life time risk of an Alcohol Use Disorder in most of the countries is 10-15% for men and 5-8% for women, because many drinkers occasionally imbibe to excess. Temporary alcohol related problems are common in non- alcoholics, especially in the late teens to the late twenties. However, repeated problems in multiple life areas can indicate an Alcohol Use Disorder.[2]As per *Ayurvedic* classics; this condition can be considered under*Madatyaya*. Based on the symptoms, the line of treatment adopted was *Madatyaya Chikitsa* with *Shamanoushadhis* and *Satwawajaya chikitsa*. The treatment included *Shirodhara, Abhyanga, Bashpa sweda* and other *shamanoushadhis along with Satwawajaya chikitsa*.

CASE REPORT:

A 30-year-old male presenting with gradual onset of tremors in upper limbs, generalized weakness, nausea since 2 years, which has increased since 2 months, associated with urge for defecation immediately after consuming food since 1 month, burning micturition since 2months and Headache since 1 month was admitted at SKAMCH&RC Bangalore on 27/4/16. He was apparently normal 2yrs ago. He gradually developed tremors in the hand and generalized weakness, nausea, loss of appetite, which interfered with his activities of daily living. Patient is a known alcoholic since 7 years and used to drink alcohol (approximately 360ml or even more), he was also addicted to smoking (5-6 nos) and supari (2-3 packets) per day. He complained of constant irritation, short temperedness and depression due to his diminishing interpersonal relationship with family and friends. He complains of heaviness & headache in the morning that used to reduce after consuming alcohol, otherwise he couldn't perform his other activities. After consuming alcohol, the patient used to have temporary sense of well being. He used to consume alcohol once in 2-3 hours. He also had nausea or vomiting frequently along with loss of appetite. Patient food intake was less but whenever he consumed food he used to prefer spicy food. He gradually noticed urge to defecate soon after consuming food. Stool was normal in color semisolid in consistency with no foul smell. He also noticed weight loss approximately 7-8 kgs in 2 years. The tremors in hands used to increase while performing activities like trying to pick a book or bottle. The tremors used to stay until he picks up the object and would disappear later, slowly the symptoms started worsening. His parents & relatives advised him about quitting alcohol, but he was unable to adhere to their request initially but later decided to give it up and approached SKAMCH &RC.

After proper history taking and through examination the case was diagnosed as *MADATYAYA i.e.*, ALCOHOL USE DISORDER.

EXAMINATION ON ADMISSION:

General examination:

The general condition of patient was fair, with moderate built and under nourished, afebrile, pulse 74/min, blood pressure 130/90 mm of Hg, respiratory rate- 16/min, and height-5.6ft, weight-56kg, BMI-19.2. Pallor was absent, Icterus was present, Cyanosis, Clubbing, Lymphadenopathy, Edema was absent. His bowel was4-5 times per day, incomplete evac-

uation, Micturition 5-6times per day and had burning micturition

Systemic examination:

In the systemic examination, Patient was conscious and well oriented. Abdomen was scaphoid, non-tender, and bowel sounds were present. Respiratory and cardiovascular system examination was uneventful. Cranial Nerve Examination and sensory system examination was intact.

Icterus present in both the eyes.

Intentional tremors noted only during performing any activities like drinking water, holding the book etc, Tremors starts before trying to take any object and disappeared after picking it up.

The patient gave positive answers for CAGE Questionnaire[3]

1. Have you ever felt you need to **cut down** on your drinking?
2. Have people **annoyed** you by criticizing your drinking?
3. Have you ever felt **Guilty** about drinking?
4. Are you an **Eye opener**?

and according to Alcohol Use Disorders Identification Test (AUDIT)[4], which consists of 12 questions relating to alcohol use and is graded as Mild -2-3 questions, Moderate- 4-5 questions, Severe - 6& more questions are answered to be yes within a span of one year, the patient had answered yes for 7 questions.

ROGA PAREEKSHA:

NIDANA:

ati madya pana(excess intake of alcohol)
krodha(excess anger)
shoka(excess grief)
avyayama(decreased physical activities)
ati katu amla ahara sevana(excess use of spicy and sour food articles)

POORVAROOPA:

Aruchi (decreased taste perception)
Shira shula (headache)
Chardi (vomiting)
Dukkha (grief)

SAMPRAPTHI

Intake of excessive *madya* without proper intake of food resulted in *rasadusti*. The *madya-gunas* like *ruksha* and *tikshna* has led to the aggravation of *vata* and the *ushna vipaka* of *madya* triggers *pitta* vitiation. The vitiated *vata* and *pitta* mixes with *kapha* in *amashaya* and reaches *hrudaya* and is circulated throughout by *vyana vayu*. This resulted in various symptoms listed by the patient and due to *ati madya sevana* and *ati katu amla ahara sevana* which is *pitta prakopakara* has led to the manifestation of *peeta netra* and *peeta mutrata* resulting in *Kamala*.

SAMPRAPTHI GHATAKA:

Dosha- Vata Pitta pradhana Tridosha
Dooshya- Rasa, Rakta, Ojus
Agni-Jataragni and *Dhatwagnimandya*
Aama-Jataragni and *Dhatwagnimandyajanya*
Srothas- Rasavaha, Raktavaha, Annavaha, Pureeshavaha, Mutravaha
Srothodushtiprakara- Sanga, Vimarga gamana
Udbhavasthana-Amashaya
Vyaktasthana- Sarvashareera
Rogamarga– Bahya &Abhyantara

INVESTIGATIONS: **Reports on 29/04/16**

- Complete Blood Count revealed decreased Hemoglobin (12.0 gm %) and raised ESR (28mm/hr). Thyroid Profile was normal. Liver Function Test showed raised Total bilirubin-2.69mg/dl, Direct bilirubin-1.02 mg/dl, Indirect bilirubin-1.67mg/dl, SGOT-189.3U/L, SGPT-63.9U/L, GGT-1369.7U/L levels. Lipid profile was normal. Urine Examination showed positive results for Bile salts and Bile pigments.

USG Abdomen showed Mild Hepatomegaly with fatty changes in liver on 29-4-16.

MANAGEMENT:

Table 1: Treatment Given And The Observations

DATE	TREATMENT	OBSERVATION
27-4-16	Shirodhara with Brahmi taila and Yashtimadhu taila Sarvanga abhyanga with Kottamchukkadi taila F/B Bashpa sweda	
28-4-16	Shirodhara with Brahmi taila and Yashtimadhu taila Sarvanga abhyanga with Kottamchukkadi taila F/B Bashpa sweda	
28-4-16	• Chitrakadi vati 1-1-1 • Madiphala rasayana 2tsf BD • Saraswatharista 3tsf TID with water A/F • Tab Manasa mitra vati 1-1-1 • Tab Stresscom1-1-1	
29-4-16	Same treatment was continued Along with counseling.	TREMORS reduced 20% Tiredness reduced Head ache was not there
30-4-16	Same treatment was continued with • Drakshadi kashaya • Katuki churna 3tsf tonic, ¼ tsf churna ,9tsf water at 7am and 6pm Tab Nirocil1-1-1 A/F	Tiredness reduced 25% Urge for defecation immediately after food reduced Tremors reduced 40%
1-5-16	Same treatment was continued	Tremors reduced 50% Tiredness reduced 50% Urge for defecation immediately after food reduced
2-5-16 to 6-5-16	Same treatment was continued	• Tremors completely reduced • Calmness of mind And Strength improved • Urge for defecation immediately after food completely reduced • Icterus absent

After 10 days of treatment the Laboratory investigations were repeated on 6-5-16 which is depicted in table no 2 with comparison of values dated 29-4-16.

Table 2: Comparison Of Laboratory Parameters

Parameters	Before treatment (29-4-16)	After treatment (6-5-16)
Total bilirubin	2.69mg/dl	0.88mg/dl
Indirect bilirubin	1.02 mg/dl	0.20 mg/dl
Direct bilirubin	1.67mg/dl	0.68mg/dl
SGPT	63.9U/L	30.2U/L
SGOT	189.3U/L	34.2U/L
GGT	1369.7U/L	845.3U/L
Bile salts	Present	Absent
Bile pigments	Present	Absent

DISCUSSION

The chapter *Madatyaya* has been dealt in detail by our *Acharyas* in *Bruhat trayees*[5,6,7]. *Acharya Charaka* explains *Madatyaya* as *Vataja, Pittaja* and *Kaphaja* and considers the disease to be a *Tridoshaja vyadhi*[8]. In Ayurvedic literature the general *Samprapthi* of *Madatyaya* is not mentioned separately but *Acharya Charaka* in *Sutra sthana* has explained *samprapthi* of *Mada-Murcha-Sanyasa*[9]. But according to *Kashyapa samhitha* due to intake of excessive *madya* without proper intake of food resulted in *rasadusti*. The *madyagunas* like *ruksha* and *tikshna* has led to the aggravation of *vata* and the *ushna vipaka* of *madya* triggers *pitta* vitiation. The vitiated *vata* and *pitta* mixes with *kapha* in *amashaya* and reaches *hrudaya* and is circulated throughout by *vyana vayu*. [10]And also due to *ati madya sevana* and *ati katu amla ahara sevana* which is *pittakara* has led to manifestation of *peeta netratha* and *peeta mutratha* resulting in *Kamala*.[11]

According to modern patho-physiology in the brain, alcohol affects almost all neurotransmitter systems, with acute actions that are often the opposite of those seen following desistance after a period of heavy drinking. The most prominent actions relate to boosting gamma aminobutyric acid (GABA) activity, especially in $GABA_A$ receptors. Enhancement of this complex chloride channel system contributes to anticonvulsant, sleep-inducing, antianxiety, and muscle relaxation effects of all GABA-boosting drugs. Acutely administered alcohol produces a release of GABA, and continued use of this drug increases density of $GABA_A$ receptors, while alcohol withdrawal states are characterized by decreases in GABA-related activity. Equally important is the ability of acute alcohol to inhibit postsynaptic *N*-methyl-d-aspartate (NMDA) excitatory glutamate receptors, while chronic drinking and desistance are associated with an upregulation of these excitatory receptor subunits. As with all pleasurable activities, drinking alcohol acutely increases dopamine levels in the brain, especially in the ventral tegmentum and related brain regions, and this effect plays an important role in continued alcohol use, craving, and relapse. The changes in dopamine pathways are also linked to increases in "stress

hormones," including cortisol and adrenocorticotropic hormone (ACTH) during intoxication and decreases in these hormones during withdrawal. Such alterations are likely to contribute to both feelings of reward during intoxication and depression during falling blood alcohol concentrations. Additional important neurochemical changes include increases in synaptic levels of serotonin during acute intoxication, and subsequent upregulation of serotonin receptors.[12] The chronic use of alcohol has resulted in initial stage of Alcoholic Liver Disease i.e, Fatty Liver it is the initial and most common histologic response to hepatotoxic stimuli, including excessive alcohol ingestion. The accumulation of fat within the perivenular hepatocytes coincides with the location of alcohol dehydrogenase, the major enzyme responsible for alcohol metabolism. Continuing alcohol ingestion results in fat accumulation throughout the entire hepatic lobule. Despite extensive fatty change and distortion of the hepatocytes with macrovesicular fat, the cessation of drinking results in normalization of hepatic architecture and fat content within the liver. Patients with fatty liver will present with right upper quadrant discomfort, nausea, and, jaundice.[13]

Discussion on Treatment:

The treatment approach adopted to treat this case was to treat both *Madatyaya* and *Kamala.*

Karma: For first 7 days

- *Shirodhara* (the process of pouring continuous stream of liquid over forehead which is beneficial in most of the *Vataja* disorders) with *Brahmi taila*[14] which is *Masthiskya* and *Yastimadhu taila*[15] which is *Prasadana* and *Pittahara*.
- *Sarvanga Abhyanga* (massage) with *Kottamchukkadi taila*[16] followed by *Bashpa sweda*(sudation). The oil consists of *ushna veerya dravyas* and also *Snehana* and *swedana* are said to be best in alleviating *Vata dosha*.

***Shamanaushadhis*:**

- *Tab.Chitrakadi Vati*[17] which contains *Chitraka, Pippali mula, Yava Kshara, Sarja Kshara, Pancha Lavana, Trikatu , Hingu ,Ajamoda , Chavya, Dadima swarasa* was selected improve the *Jataragnibala* (digestive fire) and to reduce the *Aama* (morbid element) until *Nirama lakshanas* are seen.
- Syp. *Madiphala rasayana* which contains *Madiphala, Jambira, Ardraka, Dhanyaka, Jeeraka, Saindhava* It is an anti-bilious cooling tonic and corrects flatulence & nausea.[18]
- Tab. *Stresscom* which contains dry extract of *Ashwagandha* roots which is *Balya, vata- kaphagna* by its *Ushna veerya.*[19]
- Tab. *Manasa Mitra Vati*[20] which contains almost 54 drugs is said to be *Sarva Mano Doshahara, Medhakara, Prabala Unmada nashaka*.
- *Syp. Saraswatharista*[21]is an *Arista* which is *Medhya, Hrudya, Ojokaraka* and also be considered to treat *Madatyaya* as *Hetu vipareetarthakari chikitsa (Madatyaya* to be treated with *Madya)*[22]and helps to calm the Hyperexcitability of Brain.

These medications were given for initial 7 days due to which most of the symptoms came down.

After 4 days along with the above treatment, Syp. *Drakshadi kashaya*[23] 3 tsf with *Katuki churna* ¼ tsf was given along with water twice daily before food.

The *Drakshadi kashaya* is indicated in *Madatyaya* and *Kamala* the drugs which are present in this formulation are mainly *Virechanopagas* and *Pittahara*, the Fructose present in it accelerates Alcohol breakdown and helps in relieving the effect of Alcohol and *Katuki churna* is said to be best *Bhedana*[24] (Type of Virechana)

Tab. *Nirocil* which contains extract of *Bhumyamalaki* which is proved to be best in *Kamala* was given. Along with these *Satwawajayachikitsa*in the form of *Ahithebhyo arthebhyo mano nigrahath* (restrain of mind from unwholesome object)[25] was also done to improve the quality of life of the patient. The combined action of the above facilitated *samprapthi vighatana*.

CONCLUSION

Madatyaya includes various clinical spectrums resulting due to excessive intake of alcohol. It is characterized by vitiation of all *Doshas* and impairment of *Ojas*. As there is accumulation of morbid *Dosha* in large quantity all over body one need to be careful in selection of appropriate procedure as it is based on *Rogi* and *Roga Bala*. Though *chikitsa* plays an imperative role in management of *Madatyaya* but abstinence from alcohol is the key. *Ahara, Vihara, Achara* and *Shamanaushadhi* are equally essential to prevent recurrence of alcoholic disorders. The treatment principle involves alleviation of the predominant *dosha* first, in this case it was *Vata dosha*, hence *Snehana* and *Swedana* was adopted. Then *Aama nirharana* was done, later by adopting the *chikitsa sutra* of *Kamala "KAMALI TU VIRECHANAIHI"*[26]*Nitya virechana* was given to remove excess of *Pitta*. *Satwawajaya* or Motivational Interviewing[27] has been an effective treatment in preventing the recourse. In this case the patient recovery was seen very quickly which gives us the idea of benefits of our Classical treatment and helps us to approach towards various cases of *Madatyaya*that is Alcohol Use Disorder.

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