

Ayurvedic management of Alcohol Withdrawal: A Case Report

Case Report

Debaleena Acharjee^{1*}

1. Assistant Professor, Department of Agad Tantra, Ankerite Ayurveda Medical College and Hospital, Parvar Poorab, Mohanlalganj, Uttar Pradesh. India.

Abstract

Introduction: Hazardous alcohol use accounts for 5.1% of the global disease burden, with 7.1% in males and 2.2% in females. Chronic alcohol consumption is associated with liver diseases such as fatty liver, hepatitis, and cirrhosis, as well as other health issues like pancreatitis, gastrointestinal disorders, malnutrition, vitamin deficiencies, and cancer. Withdrawal symptoms often accompany cessation. In Ayurvedic medicine, effective treatments for alcoholism and withdrawal symptoms (*Madatyaya*) are well-documented. **Main clinical findings:** In this case a 32 yrs old male patient presented with symptoms of insomnia, anxiety, nausea, restlessness, depression, headache and discomfort persisting for a duration of 15 days. The individual had developed a chronic dependency on alcohol over a span of 8 years, but ceased its usage 2 months ago as a result of concurrent health concerns. Currently, he is manifesting these symptoms as withdrawal symptoms. **Diagnosis:** Patient was diagnosed with Alcohol withdrawal syndrome. **Intervention:** The patient had ayurvedic treatment including meditation, counselling, and the use of *Kharjuradi mantha*, *Drakshasava*, *Sutashekhar rasa*, *Phalatrikadi kwath* and *Medhya yoga*. **Outcome:** With improvement in the signs and symptoms of alcoholism, this therapy strategy aims to improve the patient's condition.

Keywords: *Madatyaya*, Alcohol withdrawal, Integrated approach, Ayurvedic management.

Introduction

Alcohol consumption, especially binge drinking, is a significant risk factor for over 30 diseases and contributes heavily to the global disease burden. Common alcohol-related conditions include infectious diseases, cancer, diabetes, neuropsychiatric disorders (including alcohol abuse), cardiovascular diseases, liver and pancreatic diseases, as well as unintentional and intentional injuries.^(1,2) Knowledge of the health risks linked to alcohol has led to guidelines for low-risk drinking. Alcohol use can harm not only the drinker but also those around them, with significant social and economic costs. These factors underscore the need for preventive interventions to reduce the harm of excessive drinking. Prolonged alcohol use can lead to alcoholism, and stopping can result in Alcohol Withdrawal Syndrome, both of which severely impact health and quality of life. In Ayurveda, prolonged misuse of alcohol results in '*Madatyaya*', a '*sannipataja vyadhi*' that primarily disrupts *ojas* and leads to an accumulation of morbid doshas. It goes beyond alcohol intoxication, dependence, or withdrawal, involving multiple systemic dysfunctions. Common manifestations include neurological, gastro-hepatic, and cardiopulmonary issues, closely resembling the

symptoms of alcoholism. Therefore, these conditions can be correlated, and ayurvedic management is highly effective in treating this condition from core. (3) Lack of awareness about chronic alcoholism leads to issues such as poor hygiene, anorexia, chronic gastroenteritis, exhaustion, peripheral neuropathies, impotence, infertility, obesity, liver and heart changes, cirrhosis, tremors, insomnia, red eyes, recurrent infections, dementia, amnesia, and impaired judgment. (4)

Case Report

On 28th December 2022, a 38 years old male patient visited to Agad Tantra OPD complaining of insomnia, anxiety, nausea, Restlessness and discomfort from last 15 days.

The patient was in good health a year ago but has been heavily dependent on alcohol for the past eight years. Two months ago, he sought medical advice for anxiety and restlessness and was diagnosed with chronic alcoholism. He is non diabetic, has no history of hypertension, and has not shown signs of other illnesses in the past. The individual took disulfiram an allopathic medicine for 20-days, and while consuming it he took abstinence from alcohol. However, his inclination to use alcohol escalated to the point that he experienced restlessness, anxiety, nausea, depression, headache, insomnia and agitation in the absence of alcohol consumption as withdrawal symptoms. Blood reports of Liver Function Test (LFT) showed visible increase in aspartate aminotransferase (SGOT), alanine transaminase (SGPT), serum globulin etc., shown in (Figure 2). The aforementioned symptoms exhibited a significant escalation during the duration of 15 days. His daily consumption of alcohol was about 120ml of

* Corresponding Author:

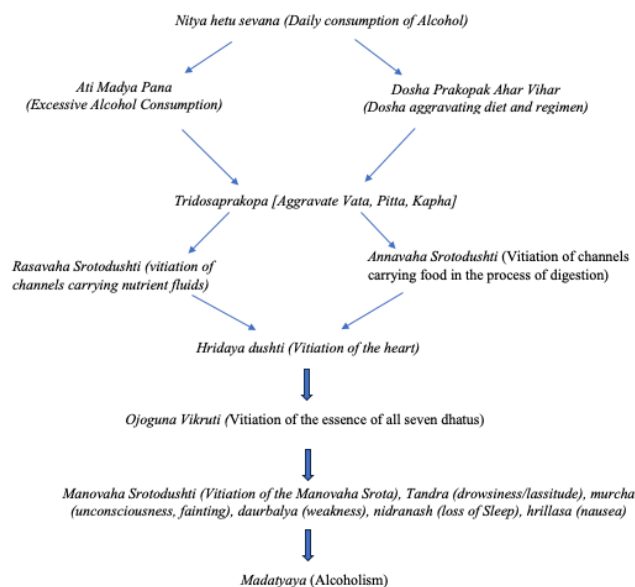
Debaleena Acharjee

Assistant Professor. Department of Agad Tantra.
Ankerite Ayurveda Medical College and Hospital,
Parvar Poorab, Mohanlalganj, Uttar Pradesh 226301.
Email Id: debaleena0801@gmail.com

desi alcohol and mixed ones on occasions daily for the past eight years. The patient was assessed to have *Madhyam Bala, Pitta predominant Kaphaja nadi*.

Pathogenesis of the Disease

Figure 1: Pathogenesis of the disease



Excessive alcohol consumption, combined with dosha aggravating diet, disrupts the three *doshas* (*vata, pitta, kapha*), resulting in impairment of *rasavaha srota* and *annavaaha srotas*. The poorly digested food essence (*apachit* and *dushita ahar rasa*) impacts the heart (*hridaya*), weakening successive tissue layers (*Uttarotar dhatu shaithilya*) and disturbing vitality (*ojo vikruti*). Alcohol's sharp, hot, and acidic qualities aggravate *pitta* and *vata doshas*, causing stomach and colon inflammation and reducing nutrient absorption, leading to numbness, weakness, and neurological issues. The dry and light qualities of alcohol further aggravate *vata dosha*, depleting bone marrow (*majja*

dhatu) and causing nutritional deficiencies, bodily aches, and weakness. Additionally, alcohol affects mental channels (*manovaha srota*), reducing *satva guna* (purity) while increasing *raja-tama gunas* (passion and ignorance), As a result, symptoms such as lethargy (*tandra*), fainting (*murcha*), and weakness (*dourbalya*) develop, eventually leading to alcohol addiction (*Madatyaya*). (5, 6)

Samprapti

- **Dosha:** *Tridosha, Raja, Tama*
- **Dushya:** *Manas, Saptha Dhatu*
- **Srotasa:** *Rasavahi, Raktavahi and Sangyavahi.*
- **Type of Srotodushti:** *Sangha (obstruction), vimargagama*
- **Agni:** *Teekshnaagni.*
- **Adhithana:** *Hridaya sthana (Chetna-sthana).*(5, 6)

Diagnosis

Investigation

The patient was diagnosed on the basis of **Alcohol consumption screening questionnaire - The Alcohol Use Disorders Identification Test (AUDIT)**.(7)

It is a 10-item screening tool developed by the World Health Organisation (WHO) to assess alcohol consumption, drinking behaviours, and alcohol-related problems. **The score obtained after screening the following questions serves as a indicator for alcohol consumption related points.** Scale along with observed results are included in [Table 1].

Each questions are awarded with marks ranging from maximum of 0-4 or minimum of 0-1. Total obtained points are then added. **A total point of 0 to 7 points indicates Low risk, 8 to 15 points shows Medium risk, 16 to 19 points brings the patient to High risk and a point ranging between 20 to 40 points shows Addiction likely.**

Table 1: Questionnaire

Questions	Answers and Points	Points Obtained
1. How often do you have a drink containing alcohol?	Never (0 Point) Monthly or less (1 point) 2 to 4 times a month (2 Points) 2 to 3 times a week (3 points) 4 or more times a week (4 points)	4
2. How many drinks containing alcohol do you have on a typical day when you are drinking?	1 or 2 (0 Point) 3 or 4 (1 point) 5 or 6 (2 Points) 7 to 9 (3 points) 10 or more (4 points)	1
3. How often do you have 5 or more drinks on one occasion?	Never (0 Point) Less then once in a month (1 point) Monthly (2 points) Weekly (3 points) Daily or almost daily (4 points)	1
4. How often during the last year have you found that you were not able to stop drinking once you had started?	Never (0 Point) Less then once in a month (1 point) Monthly (2 points) Weekly (3 points) Daily or almost daily (4 points)	3

5. How often during the last year have you failed to do what was normally expected of you because of drinking?	Never (0 Point) Less then once in a month (1 point) Monthly (2 points) Weekly (3 points) Daily or almost daily (4 points)	1
6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?	Never (0 Point) Less then once in a month (1 point) Monthly (2 points) Weekly (3 points) Daily or almost daily (4 points)	3
7. How often during the last year have you had a feeling of guilt or remorse after drinking?	Never (0 Point) Less then once in a month (1 point) Monthly (2 points) Weekly (3 points) Daily or almost daily (4 points)	2
8. How often during the last year have you been unable to remember what happened the night before because you had been drinking?	Never (0 Point) Less then once in a month (1 point) Monthly (2 points) Weekly (3 points) Daily or almost daily (4 points)	2
9. Have you or someone else been injured as a result of your drinking?	No (0 points) Yes, but not in the last year (2 points) Yes, during the last year (4 points)	4
10. Has a relative, a friend, a doctor, or another health worker been concerned about your drinking or suggested you cut down?	No (0 points) Yes, but not in the last year (2 points) Yes, during the last year (4 points)	4
	Total:- 40	25

The patient achieved a cumulative score of 25 points. This finding provides confirmation of the patient's alcohol dependence.

Interventions given

1) Ayurvedic oral medications

Table 2: Ayurvedic Oral Medications

Sr. No.	Drugs	Dose	Time of Administration	Medium	Duration
1	<i>Drakshasava</i> (8, 9, 10)	3 tsf BD	Before meal	Lukewarm water	30 days
2	<i>Khajuradi mantha</i> (11)	BD	10-15 min before meal	Lukewarm water	30 days
3	<i>Phalatrikadi kwatha</i> (12)	4tsf BD	After meal	Lukewarm water	30 days
4	<i>Sutashekhar rasa 250 mg</i> (13)	40 ml OD	after meal	Water	30 days
5	<i>Medhya rasayana</i> (14,15)	2 BD	After meal	Lukewarm water	30 days

2) The patient received weekly one-hour psychological counselling, wherein he patient was made aware about his present condition and benefits of quitting alcohol use, probable complications he can face during his quitting journey.

3) He was advised a fiber-rich balanced diet, and yoga for holistic recovery from alcohol addiction. Yoga included *Pranayama* (*anulom vilom*, *ujjayi*, *bhramari*), *Asanas* (*shavasana*, *tadasana*, *katichakrasana*, *balasana*, *shashankasana*, *virasana*, *gomukhasana*, *sinhasana*, *makarasana*), and free hand exercises (fingers, wrists, elbows, shoulders, neck, hips, knees, ankles, toes). Meditation with 'Om' chanting was also incorporated, along with prescribed medication. (16, 17)

4) Counselling of the family members were also done about the present conditions of the patient, probable complications he can face and how to deal with the patient.

The patient received medication for one month and was advised to continue meditation, maintain a

healthy lifestyle, and abstain from alcohol for life. Follow-up visits were recommended every six months, with immediate consultation if re-addiction occurs.

Drug Analysis

- **Drakshaasava:** *Drakshaasava* contains Fruit of *Draksha* (*Vitis vinifera* Linn.), *Guda* (*Jaggary*), Bark of *Dalchini* (*Cinnamoum zeylanica* Blume. (C. Verum J.S), *Seed of Ela* (*Elettaria cardamomum* Maton.), *Leaves of Tejpatra* (*Cinnamomum tamala* Nees.), *Stem of Nagakeshara* (*Mesua ferrea*), *Fruit of Fulpriyangu* (*Callicarpa macrophylla* Vahl.), *Fruit of Marich* (*Piper nigrum* Linn.), *Fruit of Pippali* (*Piper longum* Linn.), *Fruit of Vayvidang* (*Embelia ribes* Burm. F), *fruit of Dhataki pushpa* (*Woodfordia fruticosa* Kurz.) (8, 9, 10)

- **Khajuradi mantha:** It contains fruit of *Kharjura* (*Phoenix sylvestris* Roxb.), *fruit of Draksha* (*Vitis vinifera* Linn.), *fruit of Vrikshamala* (*Garcinia indica*

Linn.), fruit of *Amlika (Tamarindus indica* Linn.), Seeds of *Dadima (Punica granatum* Linn.), *Parushaka (Grewia asiatica* Linn.), fruit of *Amalaki (Embllica officinalis)*, *Jiraka (Cuminum cyminum* Linn.) and *Saindhava Lavan (Rock salt)*. (11)

- **Phalatrikadi kwatha:** It contains *Amalaki (Embllica officinalis* Gaertn.), *Bibhitaki (Terminalia bellerica* Roxb.), *Haritaki (Terminalia chebula* Retz.), stem of *Guduci (Tinospora cordifolia* Miers.), leaf of *Vasa (Adhatoda vasica* Nees.), *Kalmegha (Andrographis paniculata* Nees.), *Nimba (Azadirachta indica* A. Juss.) *Kutaki (Picrorrhiza kurroa* Royale ex Benth.) (12)

- **Sutashekhar rasa:** *Sutashekhar rasa* contains *shuddha parada, swarna bhasma, shuddha tankana, Shuddha Gandhaka, tamra bhasma, rajata bhasma, shankha Bhasma, Vatsanabha (Aconitum ferox* Wall. ex Syringe), *Pippali (Piper longum* Linn.), *Maricha (Piper nigrum* Linn.), *Shunthi (Zingiber officinale)*, *Twaka (Cinnamomum zeylanicum* Blume (C. Verum J.S)), *Ela (Elettaria cardamomum* Maton.), *Tejapatra (Cinnamomum tamala* Nees.), *Nagakeshara (Mesua ferrea)*, *Bilva (Aegle marmelos)*, *Kachoorra (Curcuma zedoaria)*, *Nirvisha (Delphinium denudatum* Wall.), *Bhringaraja (Eclipta alba* (L.) Hassk) *juice is used as bhavna dravya*. (13)

- **Medhya yoga:** It contains ingredients mentioned in table no:- 3 (14,15,18)

Table 3: Ingredients

Ingredients	Botanical Name	Quantity	Part used
Mandukparni	<i>Centella asiatica</i>	1 part	Whole plant
Yastimadhu	<i>Glycirrhiza glabra</i> Linn.	1 part	Roots
Shankhpushpi	<i>Convolvulus pluricaulis</i> Chois.	1 part	Whole plant
Guduchi	<i>Tinospora cordifolia</i> Wall. ex Seringe	1 part	Stem

Assessment Criteria: An assessment criteria was developed on the basis of the symptoms as shown in table no:- 2 Grading system was developed to access the severity and reduction of the symptoms. On a grade of ‘0-3’ with ‘0’ denoting minimum symptoms and complications and ‘3’ indicating maximum complains.

Timeline:

Timelines of interventions and outcome of the treatment is Figure 2 and Table 4.

Observations and Results

1. Assessment of the Alcohol dependence was done on the basis of **The Alcohol Use Disorders Identification Test (AUDIT)**.(7): The patient scored 25 points, indicating alcohol dependence, as shown in Table 1.

Table 4: Clinical Features

Clinical feature	Symptom	Grade
Instant craving for alcohol	Within 5 mins	3
	Within 1 hrs.	2
	Within 4 hrs.	1
	No craving	0
Anxiety	Nearly every day	3
	More than half the days	2
	Several days	1
	Not at all	0
Depression	Nearly every day	3
	More than half the days	2
	Several days	1
	Not at all	0
Nausea/vomiting	Constant	3
	Intermittent	2
	Mild	1
	Absent	0
Headache	Bed rest required	3
	Interference with task	2
	Can be ignored	1
	No pain	0
Insomnia	Always	3
	Most night	2
	Occasionally	1
	Never	0

2. For thorough assessment, criteria were developed based on the patient's symptoms, with evaluations at five time points: before treatment, after one week, on day 14, day 21, and day 30. Table 4 shows the assessment criteria, including depression, anxiety, insomnia, headache, nausea, vomiting, and immediate alcohol cravings, each rated from 0 (absent) to 3 (severe).

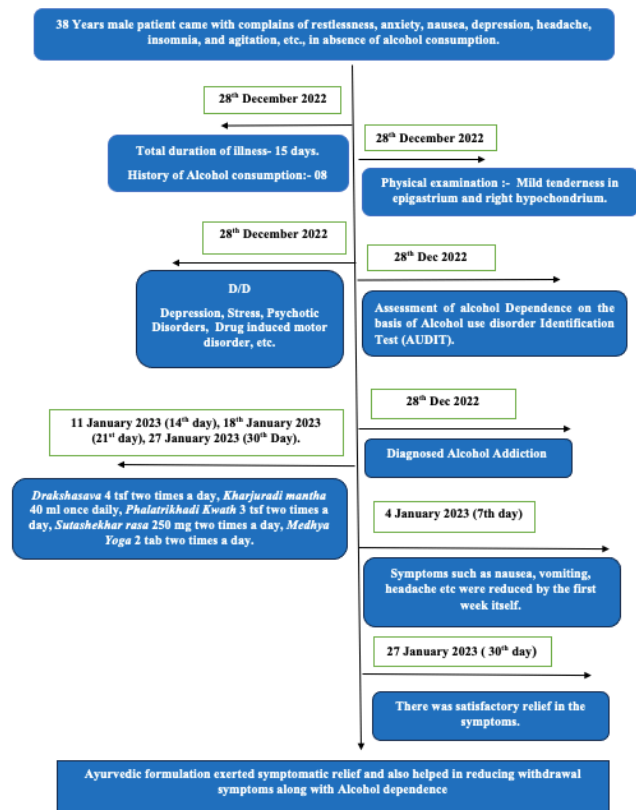
Symptoms like nausea, vomiting, and headache improved within the first week, while anxiety and headache decreased by day 14. By day 21, instant cravings, vomiting, depression, headache, and insomnia had reduced. By the end of the month, the patient had largely recovered from these symptoms and managed his alcohol cravings, as shown in Table 5 and Figure 1.

Observations:

Table No:- 5: Observations

Findings	Before Treatment	7 th day (4 th January 2023)	14 th day (11 th January 2023)	21 st day (18 th January 2023)	30 th day (25 th January 2023)
Instant craving for Alcohol	2	2	2	1	1
Anxiety	2	2	1	1	0
Depression	1	1	1	0	0
Nausea/Vomiting	3	2	2	1	1
Headache	2	1	0	0	0
Insomnia	3	3	3	2	1

Figure 2: Timeline



indicate a visible reduction in the liver function parameters.

Discussion

Alcohol consumption has become a social trend, often marking celebrations. However, occasional drinking can easily turn into a harmful habit, leading to physical, mental, social, and financial issues. Effective counseling and family support are crucial in treating alcoholism. Our treatment protocol combines medication, a balanced diet, counselling and meditation for impactful results, as seen in the improvement of signs and symptoms based on the Alcohol-Revised assessment.

Drakshaasava: *Asava* and *Arishta* preparations are valued for quick absorption, efficacy, and long shelf life, offering benefits like cardioprotective, diuretic, antimicrobial, and antioxidant effects. *Drakshasava*, a health tonic made from *Vitis vinifera*, contains phenolic compounds that act as natural antioxidants. It also has anti-depressant properties, reducing cortisol and oxidative stress, supporting the *manovaha srotas*. Additionally, it is used to treat digestive issues, appetite loss, headaches, anemia, and chronic fatigue syndrome. (19,20)

Kharjuradi mantha: *Kharjuradi Mantha* contains ingredients with *guru* (heavy) and *snigdha* (unctuous) properties, which strengthen and nourish the body. *Kharjura's* qualities, such as being pleasurable to eat, refreshing, and a tonic, help repair damage caused by alcohol (*madya*). Its sour property neutralizes *Madya's* effects. This formulation balances *Vata*, enhances complexion and strength, and acts as a rejuvenate, making it useful for treating digestive issues, insomnia, restlessness, and fatigue. (21,22,23)

Phalatrikadi kwatha: Alcohol-related liver diseases, particularly hepatitis, are well-documented due to the liver's role in ethanol metabolism. Chronic alcohol use damages the liver. Certain ingredients mentioned in *phalatrikadi kwath* offer hepatoprotective benefits. *Picrorhiza kurroa* aids bile clearance and reduces serum bilirubin, treating hepatitis B. (24) Antioxidants in *Phalatrikadi Kwath* protect the liver from free radical damage, while *Tinospora cordifolia* boosts immunity. Additionally, herbs like *Amrita*, *Kalmegha*, and *Katuki* help suppress Kupffer cells, supporting liver regeneration. (25,26)

Sutashekhar rasa: All ingredients in *Sutashekhar* are *pittahara*, so, this is primarily utilized for burning pain in the chest and epigastric regions, reduces nausea and vomiting. (26,27)

Medhya yoga: Alcohol consumption leads to *vata-pitta* imbalance, which affects the heart (*Hridaya*), disrupting mental channels (*manovaha srotas*) and diminishing the normal functions of *Ojas*. This results in symptoms like drowsiness (*Tandra*), fainting (*Murcha*), weakness

Pathological findings:

Figure 3: Before Treatment

TEST NAME	TECHNOLOGY	VALUE	UNITS	NORMAL RANGE
BILIRUBIN - TOTAL	PHOTOMETRY	1.03	mg/dl	0.3-1.2
BILIRUBIN -DIRECT	PHOTOMETRY	0.18	mg/dl	< 0.3
BILIRUBIN (INDIRECT)	CALCULATED	0.85	mg/dl	0.0-0.9
GAMMA GLUTAMYL TRANSFERASE (GGT)	PHOTOMETRY	11	U/l	< 55
ASPARTATE AMINOTRANSFERASE (SGOT)	PHOTOMETRY	55	U/l	< 35
ALANINE TRANSAMINASE (SGPT)	PHOTOMETRY	50.14	U/l	< 45
PROTEIN - TOTAL	PHOTOMETRY	7.97	gm/dl	5.7-8.2
ALBUMIN - SERUM	PHOTOMETRY	4.28	gm/dl	3.2-4.8
SERUM GLOBULIN	PHOTOMETRY	3.69	gm/dL	2.5-3.4
SERUM ALB/GLOBULIN RATIO	CALCULATED	1.16	Ratio	0.9 - 2

Please correlate with clinical conditions.

Method :
 BILT - VANADATE OXIDATION
 BILD - VANADATE OXIDATION
 BILL - DERIVED FROM SERUM TOTAL AND DIRECT BILIRUBIN VALUES
 GGT - MODIFIED IFCC METHOD
 SGOT - IFCC* WITHOUT PYRIDOXAL PHOSPHATE ACTIVATION
 SGPT - IFCC* WITHOUT PYRIDOXAL PHOSPHATE ACTIVATION
 PROT - BIURET METHOD
 SALB - ALBUMIN BCG METHOD (COLORIMETRIC ASSAY ENDPOINT)
 SEGB - DERIVED FROM SERUM ALBUMIN AND PROTEIN VALUES
 A/G R - DERIVED FROM SERUM ALBUMIN AND PROTEIN VALUES

Figure 4: After Treatment

Test	Results	BIOCHEMISTRY Units	Biological Referen...
Liver Function Test			
BILIRUBIN(TOTAL) - Serum DPD	0.9	mg/dL	0.3-1.2
BILIRUBIN(DIRECT) - Serum DPD	0.2	mg/dL	0.0-0.2
BILIRUBIN(INDIRECT) - Serum DPD	0.7	mg/dL	0.3-1.0
Total Protein - Serum Biuret	6.8	g/dL	Adult: 6.5-8.3
Serum Albumin - Serum Bromocresol Green	3.5	g/dL	Newborn upto 4 days Adult: 3.5-5.2
Globulin - Serum	3.3	gm/dL	2.4-3.5
A/G Ratio - Serum	1.1		1.0-2.0
Alk Phosphatase - Serum PhIP with AMP buffer	63.2	U/L	30-120
S.G.P.T - Serum	10.3	U/L	< 50
S.G.O.T - Serum	18.2	U/L	< 50

INSTRUMENTS
 1. AU 480 @ BECKMAN COULTER (JAPAN).
 2. Au 680 @ BECKMAN COULTER (JAPAN).
 3. DKS 700 Au @ BECKMAN COULTER (JAPAN).
 4. VITROS 5.1/FS @ ORTHO-CLINICAL DIAGNOSTICS (U.S.A)

Kindly correlate clinically. If necessary discuss/ repeat. This is an electronically authenticated report
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Comparison of the pathological reports before treatment (Figure 3) and after treatment (Figure 4)

(*Daurbalya*), and insomnia (*Nidranasha*). To counter these effects, a preparation with *Medhya* (intellect-promoting) properties is essential. (18,29,30) Here in a *Medhya* formulation is made using herbs like *Mandukparni*, which is neuroprotective, enhances brain development, memory, and learning, and has shown stimulant effects in both animal and clinical studies. (30,31) *Brahmi* improves memory and cognitive functions (32,33) *Shankhpushpi* acts as a nervine tonic that stimulates the nervous system(33,35), and *Guduchi* offers antioxidant benefits, serving both as a nervine and general tonic.(36,37)

Conclusion

The patient's response to treatment for *Madatyaya* (alcoholism/alcohol withdrawal syndrome) has been promising, with notable improvement in scores and balance in *triguna* and *tridoshas*. Ayurvedic medications, counseling, a healthy diet, and meditation facilitated symptomatic relief and overall health improvement. No addictive drugs were used, ensuring a safe and effective treatment, highlighting its potential as a novel approach for alcohol addiction management. The debate above leads us to the conclusion that this medication is quite promising and a new light in the field of alcohol addiction treatment.

Future scope of the study

This is a single case study; however randomised controlled clinical trials can be conducted in the future following these protocols to strengthen its credibility.

Patient perspective

After completing the treatment, both the patient and his family reported a significant reduction in symptoms and improved management of alcohol cravings. The patient showed a positive attitude towards himself and others, and counselling for his family fostered their support in his recovery. He was advised to attend follow-ups every six months and seek immediate medical attention if adverse effects or re-addiction occur.

Ethics statement

The patient provided written informed consent for the publication of this case report.

State of human and animal rights

The intervention adhered to the ethical requirements.

Research ethics and patient consent

The patient provided written informed consent and granted permission for the utilisation of their clinical data for research purposes and subsequent publication.

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