REVIEW OF MADA AVASTHA AND STAGES OF ACUTE ALCOHOL INTOXICATION

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ABSTRACT

Ayurveda is science of life which is divided in eight branches. Agad tantra is one of them which deal with study of Visha (Poison). Visha are the substances which cause deleterious effect on the body after their consumption. Every drug has some therapeutic as well as toxic effects depending upon its dose and intension of consumption. Madya is having therapeutic properties in proper dose. If it is not consumed in proper dose and proper manner, then it affects like Visha. The attributes of Visha & Madya are same. Acharya Charakacharya has mentioned three Mada Avastha. The aim of this presentation is to study & correlate the concept of Mada Avastha with stages of acute alcohol intoxication. In this study, literary review of Madya & Mada Avastha from various Ayurveda texts is done. References for concept of alcohol & stages of intoxication in acute alcohol poisoning from books of contemporary sciences are collected. Analysis of the available literature concludes that the Mada Avastha and stages of alcohol intoxication are helpful for early diagnosis of Madatyaya. Stages of alcohol intoxication have medico legal importance to determine the alcohol blood level in the body.

Keywords: Visha, Madya, Mada, Acute alcohol intoxication.

INTRODUCTION

Ayurveda is science of life which is divided in eight branches. Agad tantra is one of them which deal with study of Visha (Poison)¹. Poison are the substances which cause deleterious effect on the body after their consumption². According to the Acharya Charaka the substance which causes sadness to the world is called as Visha³. As the attributes of Visha⁴ & Madya⁵ are same and Madya can also affect like Visha, it is included in Agad tantra as Madyavisha. Acharya Charak and Sushrut has mentioned three Mada Avastha⁶ and Acharya Madhava has mentioned four Mada Avastha⁷. According to the Sharangdhar Samhita the drug possessing Tamoguna predominantly cause derangement of the mind called as Madakari⁸. If Visha is consumed in quantified dose, it acts like Amrutam & if it is consumed in non-specified dose even Amruta will act like Visha⁹. Alcohol causes addiction resulting into chronic health effects like cirrhosis of liver, alcoholic hallucination, hepatic carcinoma etc¹⁰. The stages of alcohol intoxication provoke the symptoms of intoxication caused by increased consumption of alcohol. Identification of these stages in patients at the earliest stage will save the patient from hazardous complications. Hence this study is undertaken to correlate the concept of Mada Avastha with stages of acute alcohol intoxication. In this context, the available literature is reviewed and analyzed.
AIM - Study of Mada Avastha and stages of alcohol intoxication

OBJECTIVES
- To diagnose the patient of alcoholic intoxication earliest from the symptoms so as to save the patient from landing into next stages of alcohol intoxication.

Acharya Sarangadhara while describing the Madakari property included all the drugs with tamoguna, and which cause derangement of mind under madya varga or intoxicant Eg-Sura, Madya etc. The madya possessing the ten properties such as a Laghu (light), Ushna(hot), Teekshna (sharp), Sukshma (fine), Amla (sour), Vyavayi (quick absorption), Ashu(quick acting), Ruksha (Rough), Vikasi (depressant), Vishada (Non slimy). This madya having the opposite to the ten qualities of Ojus. The merits of madyapana are energy nourishment, happiness good health proper digestion toning of health promote voice and complexion removes fear induced sleep. Demerits of madyapan are Moha, Bhaya, Shoka, Kroda, Mrutyu, Mada, Moorccha, Unmad, Apasmar, Aptanak. Effect Brain Dhruti, Bhrunsha, Trivarga Nash (Dharma, Earth, Kama), (Dhee, Dhairya, Lajja) Madya entering in to heart vitiats Ojus by its apposite qualities to that of Ojus The disease caused by improper and excesses drinking of madya are treated by proper administration of madya. Effect of madya on entering the heart, counter acts in the ten properties of Ojus. Charaka has mentioned that, madya due to its apposite qualities to Ojus disturbs satva, which is the seat of Ojus and produces nacrosis (mada). According to Ayurveda classics, Hridya is the seat for the channels of Rasa vaata and also for satva (psyche), Buddhi (intellect), Indriya (sense), Atma (soul) and para Ojus. Hence, excessive indulgence in madyapa damages Ojus and vitiating heart and there by deranging all the factor for which heart is the seat. When Hridaya is afflicted by madya sevana, it result in vibhrama or mada. Which is manifested in the form of exhilaration, thirst, enjoyment, happiness, mental aberration and unconsciousness.

Mada Avastha:
1) Purva avastha
- Praharshan
- Preetikar
- Pannangunarshak
- Samyagbodhayati
- Uttam Buddhi, Smruti, Vishay dnyan
- Sukhanidraprabodha
- Sukhad avastha.

2) Madhyam avastha
- Muhu smruti mahu moh, Aayaktasajjati vangmuhu,
- Yuktayuktapralap prachalaynam,
- Sthana pana anna sankthyayogna viparyay.

3) Final stage (Tritiya avastha)
- Bhagnadaru eva nishkriya,
- Madamohavrutamana
- Jivat api mrute sama.

Stages of Acute Alcohol Poisoning
1) Stage of excitement (blood alcohol level 0.05-0.1% i.e. 50-100mg/100ml of blood).
- Hesitation, caution, self criticism & restraint are lost first.
- There is feeling of well being & pleasure.
- Person usually talks well.
- Face is flushed, conjunctiva injected, pupils dilated, pulse increased & breath smells of alcohol.
- It increases the desire for sex but impairs the performance.

2) Stage of in coordination- (blood alcohol level 0.1-0.3% i.e. 100-300mg/100ml of blood).
In coordination of thought, speech & action
There is confusion, impaired memory, slurred & incoherent speech, staggering gait, increased reaction time, impaired skilled movements, nausea & vomiting.
Eyes are suffused, pupils are dilated & slow reacting, breath smells of alcohol.

3) **Stage of narcosis (Coma)** - (blood alcohol level 0.3-0.5% i.e. 300-500mg/100ml of blood)
- Patient is in deep sleep
- Responds Only To Deep Stimuli
- Excessive Salivation
- Pulse Increased,
- Temperature Decreased
- Contracted pupils & Lateral Nystagmus Seen.
- On pinching the muscles of the face or neck pupils dilate & again become contracted on releasing the pinch.

4) **Stage of medullary paralysis** - (blood alcohol level +0.5% i.e. more than 500mg/100ml of blood)
- Respiration is slow & stertorous
- Skin is cold, clammy & cyanotic
- Pupils are dilated
- Abolition of reflexes
- Pulse becomes imperceptible

### BLOOD ALCOHOL CONCENTRATION grams/100 ml | STAGE OF INTOXICATION | CLINICAL SIGNS/ SYMPTOMS
---|---|---
0-50 | Sobriety | Influence/effects usually not apparent or obvious
| | | Behavior nearly normal by ordinary observation
| | | Impairment detectable by special tests
50-100 | Euphoria | Feeling of wellbeing, sociability, talkativeness, decreased inhibitions, fine movements affected
100-150 | Excitement | Emotional instability, impairment of memory & comprehension, increased reaction time, mild ataxia
150-200 | Confusion | Disorientation, confusion, vertigo, diplopia, ataxia, slurred speech, staggering gait.
200-300 | Stupor | General inertia, diminished response to stimuli, inability to stand or walk, vomiting.
300-500 | Coma | Unconsciousness, abolished reflexes, subnormal temperature, incontinence of urine, faeces, respiratory compromise.
>500 | Death | Death from respiratory arrest

### DISCUSSION
Acharya Charaka has mentioned merits[21] and demerits of *Madya*[22][23]. The merits of *madya* are energy, nourishment, happiness, good health, proper digestion, toning of health, promote voice and completion, removes fear, induce sleep. Demerits of *madya* are *Moha, Bhaya, Shoka, Krodha, Mrutyu, Mada, Moorcccha, Unmad, Apasmara, Apa-, tanka* effect Brain, *Dhruti, Smruti, Bhransha, Trivarga Nash (Dharma, Artha, Kama), (Dhee, Dhaitya, Laija)*. Effect of *madya* on entering the heart, counter acts the ten properties of *Ojus*. Charaka has mentioned that *madya* due to its opposite qualities to *Ojus* disturbs *satva*, which is the seat of *Ojus* and produces narcosis (*mada*)[24].
Alcohol is classified as an inebriant poison. It is of two types: Ethyl and methyl alcohol. Ethyl alcohol depresses the CNS irregularly in descending order from cortex to medulla. Stage of excitement is due to removal of inhibitions. Alcohol from blood passes into alveolar air through the lungs, hence breath smells of alcohol. It causes generalized vasodilatation, is hypnotic, creates a feeling of warmth but the heat loss is more, stimulates appetite, is diuretic, diaphoretic & causes gastritis. If the alcohol is consumed regularly, inappropriately and in large dosages, it forms addiction and leads to acute as well as chronic poisoning. The symptoms mentioned in stages of alcohol intoxication are subjected to specific blood alcohol concentration. Hence these stages are helpful to diagnose the acute alcohol poisoning at the earliest so that life of the patient can be saved. The medico legal importance of the alcohol abuse is prevalent worldwide efforts have been made to totally prohibit alcohol consumption in different countries without much success (with the possible exception of those countries where religious law is in force). At the present in India, total prohibition is in force only in Gujarat. Effort to implement the same in Tamil Nadu, Andhra Pradesh, and Haryana met with dismal failure. All over India except Gujarat the mere consumption of alcohol and consequent drunken behavior in themselves do not constitute any offence. Only when the drunken individual behaves in such a manner as to become a public nuisance, or poses a threat, or actually commits an act endangering the life or property of another person or (even his own), will the law take cognizance of the fact. There are increase chances of murder, rape, vehicular accidents, drowning. The Stages of alcohol intoxication have medico legal importance to determine the alcohol blood level in the body.

CONCLUSION

Stages of Mada described by the Charaka and stages of alcohol intoxication are helpful to diagnose the cases of alcohol intoxication earlier so as to save patient from landing into critical condition of complication.

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Source of Support: Nil
Conflict of Interest: None Declared