

Hepatic Encephalopathy: Ayurveda Perspective

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Abstract

Even though liver has a marked regenerative capacity, hepatic failure may develop due to severe liver injury with massive necrosis of liver cells. This hepatic failure may manifest as Hepatic Encephalopathy (HE). This neuro-psychiatric syndrome is characterised by disturbance in consciousness and behaviour, progressive drowsiness, irrelevant speech etc. It can be compared with later stages of *Kamala* and *Shonitaja mada* where *lakshnas* like *tandra*, *moha*, *swalpa asambaddha vachana* and personality changes like *krodha prachurata* etc. are mentioned.

The main principle of management of HE is to eliminate precipitating factors such as toxic product like ammonia by using laxative and counteracting complications by using antibiotics, diuretics. *Virechana* is mentioned for the management of both *Kamala* and *Mada* which aims at elimination of nitrogenous waste substance to the present context with other benefits. A case with ALD with jaundice landed in Grade 1 HE considered as the later stage of *Kamala* and also *Mada*, treated successfully with *Virechana* and complications are countered by using antibiotics, specified as an example in this conceptual study.

Keywords: Hepaticencephalopathy; *Shonitaja Mada*; *Virechana*; *Asadhya Kamala*.

Introduction

Hepatic Encephalopathy (HE) is a Neuro-psychiatric syndrome [1] which is also called as hepatic coma caused by the diseased liver characterized by altered consciousness, behaviour, increased psychomotor activity, Progressive drowsiness, Personality changes, Intellectual deterioration, Low slurred speech, dysarthria, flapping tremors and inverted sleep-wake pattern. It may be acute or sub acute and chronic-progressive leading to irreversible coma and death. After screening through the lakshanas mentioned in the *kamala* i.e. mainly described in the *asadyaavastha* of *kamala* i.e. *kumbakamala*[2] and *shonitaja mada*[3] such as *tandra*, *moha* (delusion), *sarakta chardhi* (gastrointestinal bleeding-triggering factor for HE) etc can be linked to hepatic encephalopathy.

HE is basically caused due to the ailing liver so it

is all the time connected with complications of liver failure such as jaundice, ascites and oedema. Thus the supervision of HE also includes the proper management of complications by using antibiotics, diuretics along with laxatives or favouring the bowel emptying by using lactulose bowel enema which decreases the ammonia level in the body by decreasing the activity of urease bacteria in the bowel[4]. *Virechana* has been explained for the management of *kamala* and also *mada* aims at the purging of toxic product out of the body along with other soothing effects over the disease condition.

Aim of the Study

This study has been conducted to analyse the concept of Hepatic Encephalopathy and its management principles in *Ayurveda*.

Review of Literature

Pathogenesis [5] of HE includes mainly three factors i.e. severe loss of hepato cellular function, an elevation in blood ammonia level-which impairs neuronal function and causes generalised brain oedema and also there will be deranged neurotransmitter production. In short there will be

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involvement of central nervous system in case of liver disease.

Ayurveda Perspective

Charakacharya explained about advanced stage of kamala i.e. kumbakamala which is characterized by Krishna peeta varna pureesha (blackish yellow coloured stool) and also peeta varna mutra (yellow coloured urine), mahashota (swelling), daha (burning sensation), aruchi (testlessness), anaha (distention of abdomen), mahashotha, raktakshi (redness of the eyes), raktacchardi (oesophageal varices), tama which is considered as ajyana hetu[6] and lastly produces tandra (drowsiness), moha (semi consciousness) and nastasanjya (unconscious). When there is kamala upeksha i.e. neglected or chikitsa abhava or improper management in due course (kalantarata khari bhuta) it becomes asadhya (incurable) called as kumbakamala.

Samprapti (Pathogenesis)

Due to nidana sevana especially Pradusta Bahu Tikshana Ushna Madhya which is considered common

causes for liver disease, in present era also in practice almost all cases of liver disease we see, in all those case intake of alcohol is one of the most common cause for disease appearance, there will be vitiation of pitta and raktadhatu (blood tissue) after indulgence of those nidana. When these vitiated doshas take ashraya (shelter) in raktavahisrotas and yakrita as adhishtana (place of disease manifestation), they produce different vyadhi's like yakritaroga, yakrutadalyodara, pliharoga and also kamala. If Kamala is not managed at proper time it may lead to Kumbha kamala, a next stage of Kamala considered incurable. Tandra and Moha laxanas seen in Kumbha kamala are indicative of involvement of Sanjnavahasrotas. Based on intensity of involvement of moha (muha vaichitya) will produce mada, murcha and sanyasa avastha. If vitiated pitta and rakta along with vata takes ashraya in sanjyavaha srotas and mastishka as adhishtana can directly produce moha and its further stages as mada, murcha and sanyas, sparing the Kamala presentation. The flow chart of samprapti is depicted in Figure 1. The correlation of symptoms of hepatic encephalopathy and different avasthas of mada has been shown in table 1 and table 2 shows about their grading pattern.

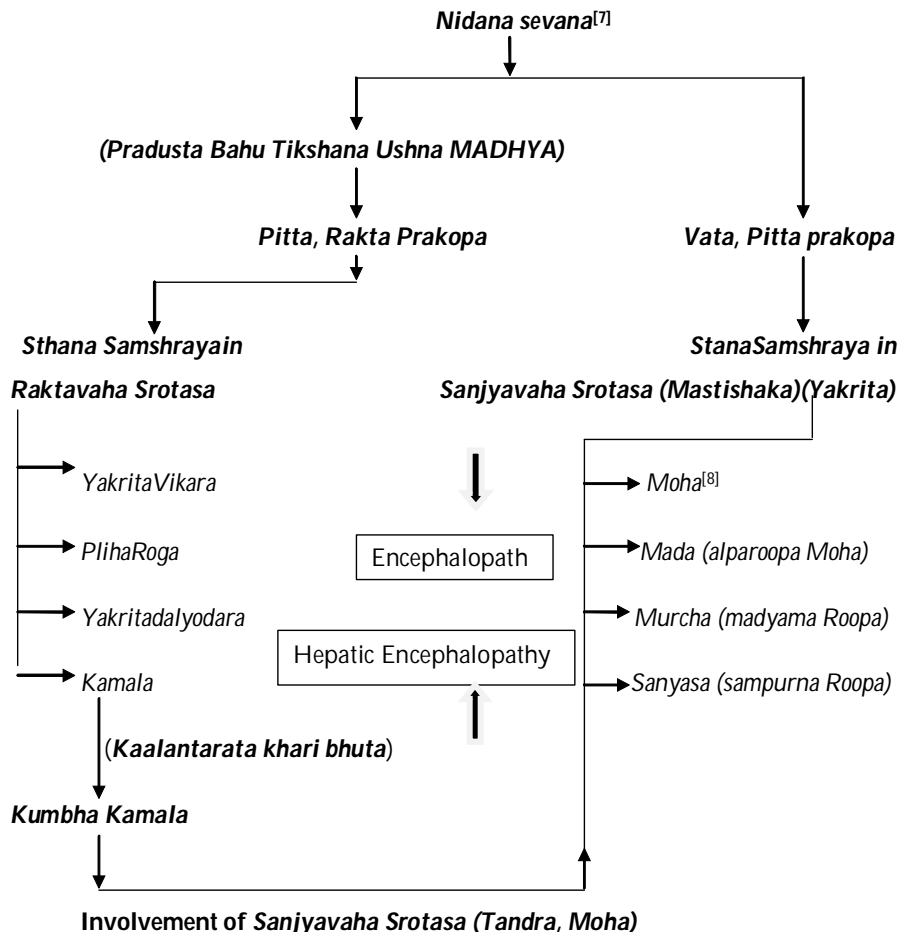


Fig. 1: Flow chart describing the pathogenesis

Clinical Assessment

Table 1: Clinical assessment based on signs and symptoms of HE and *lakshana* [9] starting from the first course of *rakta* vitiation till the manifestation of *kumbakamala* and *moha*.

Symptoms of HE [10]	Lakshanas [9]
Confusion	<i>Tama</i> (<i>ajyana</i> Hetu)
Drowsiness/Progressive Drowsiness	<i>Tandra</i>
Low Slurred Speech	<i>Swara</i> Kshaya
Inverted Sleep-wake Pattern	<i>Nidra</i> Atiyoga
Inability To Concentrate/ Intellectual Detioration	<i>Buddhe: Sammoh</i>
Disorientation	<i>Mada</i>
Increased Psychomotor Activity	<i>Rajomoha</i> AvruttaMana
Flapping Tremors	<i>Kampa</i>

In this way based on signs and symptoms, HE can be correlated with the advanced stage of *kamala* i.e. *kumba kamala* and finally following *Mada*, *Murccha*

and *Sanyasa*. Here *Kumbakamala*, *Moha* can be considered as complex manifestation of *Kamala*.

Table 2: Grading of HE [11, 12] –stages of *mada* [13]

Stages	Grading	Signs/Symptoms	Lakshanas	Types
<i>Mada</i>	Grade 1	Poor Concentration, Slow Mentation Mild Lack Of Awareness Low Slurred Speech Shortened Attention Span, impaired Addiction / Subtraction	<i>Mano</i> Vikshobhayanto <i>Sanjya</i> Samoha (<i>jyana</i> Shunyata) <i>Sakta</i> Bhashana <i>Chala</i> Skhallita Chestita	<i>Vataja</i> Mada <i>Vataja</i> Mada
<i>Mada</i>	Grade 2	Occasional Aggressive Behaviour Lethargic Disoriented Inappropriate Behaviour	<i>Sakrodha</i> parusha bhashaam, <i>Samprahar</i> Kali Priyama <i>Tandra</i> Alasya Samanvitam <i>Swalpa</i> Asambaddha Vachanam	<i>Pittaja</i> Mada <i>Kaphaja</i> Mada <i>Kaphaja</i> Mada
<i>Murccha</i>	Grade 3	Marked Confusion, Gross Disorientation Sleepy but Responds To Pain And Voice	<i>Samoha</i> <i>Tama: Pravishyati</i> - <i>Ajyana</i> Hetu <i>Shigram</i> Cha Pratibudyate	
<i>Sanyasa</i>	Grade 4	Unresponsive To Voice, May/ May Not Respond To Painful Stimuli Unconscious/Coma	<i>Achestam</i> Kurvanti <i>Sarva</i> Karma Phala Tyaga	

Treatment Principles

Contemporary science mainly concentrates on elimination of precipitating factors like reducing nitrogen load, suppressing production of neurotoxins by bacteria in the bowel and bowel sterilization, avoiding constipation & favour bowel emptying by bowel wash enema/lactulose enema to reduce blood ammonia level.

In classics it is explained that for all *pitta* and *rakta* *vikara- virechana*[14] (purgation therapy) is best line of treatment. And even for *Kamala-mruda virechana* has been explained. Even for *moha* one of the lines of treatment is *virechana*. HE needs immediate management and there will be *bahudoshavastha* so in concern to *virechana*, *nityavirechana* is ideal which aims at elimination of nitrogenous waste substance and also favours bowel emptying along with it also aims at treating *Jalodhara* / *Kamala*.

Case Example

A 40 year old male patient with K/C/O ALD with

jaundice and ascites landed in Grade 1 hepatic encephalopathy approached our hospital with features like drowsiness, occasionally aggressive behaviour/angry on relative, slow slurred speech, mild lack of awareness with yellowish discoloration of eyes, urine and distension of the abdomen and patient use to get irritable.

Considered the case as the later stage of *Kamala-kumba kamala* and also *Mada* and treated successfully by administering *Nitya Virechana* with *Trivrutta lehya* 20 gm/day for 7 days and antibiotics were used as per the necessity.

Discussion

Till now some of the conditions related to different diseases are not yet clear in day today practice concern to their concepts of manifestation of diseases and their management in this epoch. One of those manifestations is hepatic encephalopathy where we

see the involvement of nervous system along with the liver injury and also jaundice, ascites which needs immediate management at proper time, so it will be reversible or in severe cases with improper management condition may be irreversible coma followed by death. Treatment principle includes the taking away of precipitating factors by avoiding constipation and favouring the bowel emptying along with management of complications by using antibiotics, diuretics, and laxatives. HE can be concurrent to the *kumba kamal* and *mada* were also we see association of *sanjyavaha srotas* along with contribution of *yakrita* as the main place of disease manifestation i.e. *adhista* or *vyadhi utpatti sthana* leading symptoms such as *daha*, *rakta peeta varnata* of *mutra*, *pureesha*, *raktachardhi*, *tandra*, *moha* followed by *nastasanjya*. *Yakrita* is considered as *mulasthana* of *raktavahi srotasa* and *kamala* is *pitta pradhana vyadhi* and *dushya* is *rakta*, in *mada* also there will be involvement of *rakta dhatu* and again both are having *ashrayaashrayi sambhadda*, treatment discussed in the text for all such condition is *virechana*, as *vyadhi* is in *bahudoshavastha* and needs immediate management, *nitya virechana* can be given which expels *doshas* out of the body i.e. helps in elimination of nitrogenous waste product by detoxifying the body. In this way along with *nitya virechana*, use of hepatoprotective drugs and in later stage use of *rasayana* therapy will be comprehensive management of *kumbalamala* and *mada*. Regarding this still many more research works are needed for full pledge treatment.

Conclusion

Based on the manifestation of CNS symptoms, Liver disorders may be compared with the later stage of *Kamala* i.e. *Kumba kamala (Moha)*. This condition after involvement of *sanjyavaha srotas* may resemble the features of *Mada*. *Nitya virechana* – justified in all above conditions may become a contribution in the management of Hepatic encephalopathy.

Scope for the Study

- Research work regarding the management of HE with *Nitya virechana*.
- May be supported study priory by animal experimentation regarding- the Decrease in ammonia and remission in symptoms of HE by *NityaVirechana*.

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