

Clinical Research

Ayurveda in critical care: Illustrating Ayurvedic intervention in a case of hepatic encephalopathy

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Abstract

Ayurvedic interventions have largely been considered helpful in chronic debilitating conditions where active management of a clinical condition is not required. It is for this notion; Ayurvedic therapies have never been approached in any critical care condition requiring an active management. A perception that herbo-metallic components of various Ayurvedic drugs may actually harm the patients who are in compromised vital status has further added to this apprehension against use of such medicines in critical care. Contrary to the conventional belief, we observed a case of grade three hepatic encephalopathy with severely compromised liver function that was successfully treated with Ayurvedic therapy containing many heavy metal containing compounds. The liver function got improved in this case following the Ayurvedic intervention. The symptomatic improvements in this case were also identifiable through biochemical tests showing the functional status of liver. This case therefore is worthy of taking a note for possible inclusion of Ayurvedic interventions in critical care where Ayurvedic therapies are discarded without being given a chance of getting evaluated.

Key words: Critical care, heavy metals, hepatic encephalopathy

Introduction

Ayurveda, by convention and by contemporary notion, is considered to be a modality apt for chronic debilities.^[1,2] At no point of time, in the modern context, it is either perceived or tried for any possibility of its actions upon acute, critical, or life-threatening conditions.

In wake of rapidly growing technique-based critical care, any thought of looking at *Ayurveda* for a life-threatening condition seems ridiculous. Unfortunately, every critical care condition intervened through contemporary means of health care not always defines a success. There are plenty of conditions where technique fails and contemporary understanding finds it unable to elucidate the reasoning to any unexpected change in an existing clinical situation. The patients with a fairly poor prognosis and terminal illnesses are customarily sent back home from critical care units (CCU) for a terminal home care. These prognosticated patients are often brought by their caregivers to various other systems of healing in quest of finding a consolation despite of the repeated prognostication made

by their concerning physicians.^[3] *Ayurveda*, Homeopathy, and faith healing receive a good number of these terminal cases where the chances of recovery are fairly minimal or where some established contemporary intervention does not really exist.^[4]

Various neoplastic, cerebro-vascular, hepato-biliary, and reno-urological conditions are commonly consulted for the alternative opinions. A disguised alternative therapy besides the conventional therapy is also commonly approached for such conditions even if they are receiving the treatment as inpatients at critical care units.

Does *Ayurveda* really have some thing to do in these conditions? We often come across with this question in respect to some critical condition where the modern medicine has given up. In search of such remedies, we also come across with various claims from many Ayurvedic physicians of having cured many such cases within their reigning practices.

Unfortunately, in lack of good scientific evidence or documentation, most of such claims remain anecdotal and therefore does not generate a scientific concern.

For an ethically bound Ayurvedic physician, however, this presents a truly demanding condition when he is demanded for an intervention despite of known terminal condition of the patient. Charaka gives a code of action for these conditions by saying *akriyayat dhruvo mriyau kriyayat sanshayo bhavet* (if you don't intervene, one is certain to die, if you intervene however,

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it may be otherwise). Sometimes, as it is observed by many experienced Ayurvedic physicians, it can truly happen. We are reporting here one such case of grade-3 hepatic encephalopathy in a hepatitis B patient. The patient reported a remarkable recovery following Ayurvedic intervention. This recovery was marked by a coma reversal, regained sensorium, and marked reduction in serum bilirubin level besides improvement in other laboratory parameters. This case proposes the need of serious revisiting of Ayurvedic repertory for its possible role even in critically ill conditions. Besides, this case also proposes the need of a revisit to various toxicity claims of Ayurvedic drugs containing heavy metals and underscores the need of a better scientific appraisal to Ayurvedic pharmaceuticals in want of an improved pharmacological understanding of Ayurvedic formulary.

Case Report

We received a call to visit an elderly male patient diagnosed with grade-3 hepatic encephalopathy who was admitted at a district health care facility in Lucknow, India. Incidentally, the patient was father of a senior pathologist and therefore was provided with the best possible care of modern medicine from the health care facility. On the day of visit, (21.10.09), the patient was found in coma, unresponsive to verbal or pain stimuli and with marked flapping tremors upon its elicitation. Laboratory investigations of the preceding day (20.10.09) revealed a serum bilirubin level of 16.5 mg/dl, SGPT 1200 U/L, SGOT 1100 U/L besides many other laboratory abnormalities. The patient was reported to have a progressive liver disease for past 2 months. The history revealed the patient to be a chronic alcoholic for past 20 years, having left-sided hemiplegia following a CVA 1 year back, having a history of COPD for last 20 years besides having a history of dyspepsia for past 10 years.

Investigations available were showing a hepatomegaly through U/S examination, a normal ECG, and various other laboratory abnormalities [Table 1].

Seeing the bad prognosis and relatively insignificant impact of the contemporary interventions made upon, an Ayurvedic intervention was requested to this case in parallel to the modern interventions undertaken.

An Ayurvedic intervention in the form of following prescription [Table 2] was suggested in continuation to whatever modern therapies were prescribed. The Ayurvedic drugs were suggested to be provided through Ryle's tube in view of inability of the patient to permit an oral intake.

A reorientation was reported to begin in the patient after 5 hours of initiation of the Ayurvedic therapy. The patient was kept under close monitoring for proceeding days with repeated laboratory investigations as per the clinical conditions. On a subsequent visit after 3 days of initiation of the therapy (25.10.09), the patient was found more oriented and awake. This clinical improvement was also rallied by the reduced level of hepatic aminotransferases. Subsequent follow-up visits were able to detect a gradual recovery of the patient on clinical and laboratory parameters. Follow-up for the patient was continued till a fortnight and in last follow-up (8.11.09) the patient was reported to have a serum bilirubin level of 8.0 mg/dl and SGPT 120 U/L [Table 1]. The patient was fully oriented and resumed his appetite till this follow-up. Seeing the continuous recovery, the patient was advised to continue with the prescription given besides any other modern intervention which is recommended. We lost the follow-up as finally the patient died irrespective of improvements in the vitals, orientation, and hepatic biochemical parameters.

Discussion

Does *Ayurveda* have a role in critical care? In light of increasing furore over toxic propositions of Ayurvedic medicine,^[5,6] this case report where heavy metal-containing Ayurvedic compounds [Table 3],^[7] were successfully employed in providing a substantial improvement to a patient of compromised hepatic functions is an eye-opener.

This is obvious to note that two compounds (SMD and BVCR) used in management of the case presenting with hepatic encephalopathy were containing mercury in substantial amount besides many other metals like iron, gold, and silver. Hepatic metabolism is proposed to be one of the most crucial detoxifying mechanisms operating within a human body. A drug which is given through oral route has to pass through hepatic metabolism to get converted into bioavailable forms to ensure its action and subsequent elimination. This is how a drug is said to be cautiously

Table 1: Laboratory profile of the patient before and after Ayurvedic drug intervention (Ayurvedic intervention begun on 21.10.09)

Investigations	Done on					
	15.10.09	16.10.09	20.10.09	24.10.09	26.10.09	8.11.09
S. Bil	14.9 mg/dl	12	16.5	20.6	16.6	8.0
SGPT	1110 U/L	819	1200	911	190	120
SGOT	1090 U/L	915	1100	856	170	
Alk. Ph	386 U/L	370	306	286	210	
B. Urea	17 mg/dl	18	19	26	29	
S. Creatinine	0.9 mg/dl	0.83	0.76	0.88	0.68	
HBsAg	+					
HCV	–					
Na	–		105 meq/L	125	127	
K	–		2.6 meq/L	3.2	3.3	

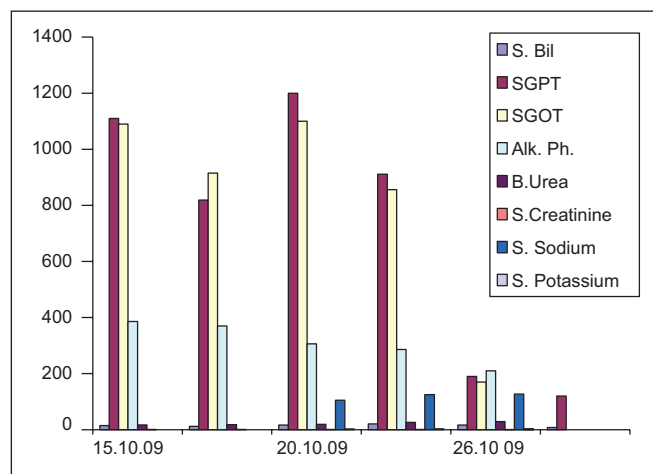
S.Bil. - Serum Bilirubin, Alk. Ph. - Alkaline Phosphatase, B. Urea - Blood Urea, S. Creatinine - Serum Creatinine, HBsAg - Hepatitis B surface Antigen, HCV - Hepatitis C Virus, Na - Sodium, K - Potassium

Table 2: Ayurvedic prescription given to the patient of hepatic encephalopathy

Medicine	Dose	Frequency
<i>Siddha Makar Dhwaaja</i> (SMD)	100 mg	Twice in a day
<i>Brihat Vata Chintamani Rasa</i> (BVCR)	100 mg	Twice in a day
A proprietary syrup containing extract of <i>Phyllanthus niruri</i> (Solumiks herbaceuticals)	10 ml	Twice in a day
A proprietary syrup containing various hepatoprotective and cholegogue herbs (The Himalaya drug company)	10 ml	Twice in a day

Table 3: Composition of Ayurvedic prescription used in the case

Name of the compound	Ratio of components									Herbs
	Hg	S	Au	Ag	Abhraka	Mukta	Fe	Praval	Rasa Sindur (RS) (a compound of Hg and S in equal proportion)	
<i>Siddha Makar Dhvaja</i> (SMD)	8	16	4	-	-	-	-	-	-	As recommended
<i>Brihat Vata Chintamani Rasa</i> (BVCR)	In the form of RS	In the form of RS	1	2	2	3	5	3	7	As recommended

**Figure 1: Laboratory profile of the patient before and after Ayurvedic drug intervention (intervention begun on 21.10.09)**

used in cases where hepatic functions are compromised. The presented case where a compromised liver function patient was subjected to conventional hepatotoxic components from an Ayurvedic regimen, and which was further marked by substantial improvements in liver function both on clinical and laboratory parameters [Figure 1], is stirring enough to call for a need of revisiting evidences forwarded to establish heavy metal toxicity through Ayurvedic metal containing compounds. The debate is however not yet over. *Ayurveda*, proposes a bioconversion of components of its drugs for their improved efficacy and reduced toxicity through specialized processing methods (*Sanskara*).^[8] The difference between raw material and a finished product is therefore one of the most important segment of study of Ayurvedic pharmaceuticals.^[9] Present facilities of investigating a heavy metal component of a drug like atomic absorption spectroscopy (AAS)

are not able to identify the metal compounds available in the given sample and instead they only give a quantitative estimate to the availability of a metal in a sample. This is one of the biggest thrust areas of research in Ayurvedic pharmaceuticals where we need to know the exact compounds of metal or otherwise in a given drug sample to initiate isolated pharmacodynamic or kinetic studies and so to know more precisely about the fate of an Ayurvedic compound in human body.

We find this case report interesting enough to begin a new debate in this important area of concern in practice of Ayurvedic medicine.

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हिन्दी सारांश

आत्ययिक अवस्था में आयुर्वेदिक उपचार की सम्भावना

संजीव रस्तोगी, पी. एस. श्रीवास्तव

आयुर्वेद उपचार जीर्ण व्याधियों में जिनमें आत्ययिक उपचार की आवश्यकता नहीं होती, के लिये उपयुक्त माना जाता है। इस कारण से ही त्वरित उपचार की आवश्यकता वाले स्थानों में आयुर्वेद का प्रयोग नहीं किया जाता। आयुर्वेदिक औषधियों में प्रयोग होने वाली भारी धातुयें तथा उनसे शरीर के महत्वपूर्ण अंगों में हो सकने वाली सम्भावित हानियों के बारे में उपलब्ध जानकारी भी आयुर्वेदिक औषधियों के ऐसी अवस्थाओं में प्रयोग किये जाने में रुकावट बन जाती है। आयुर्वेदिक औषधियों के प्रति इस सामान्य विश्वास के विरुद्ध हमने इन औषधियों का प्रयोग हेपेटिक एन्सेफेलोपथी के एक रोगी पर किया। भारी धातुओं से युक्त कतिपय आयुर्वेदिक औषधियों के प्रयोग के बाद सामान्य विश्वास के विपरीत रोगी में अपेक्षाकृत सुधार देखने को मिला। इस रोगी में सामने आया सुधार हमें आयुर्वेदिक औषधियों के प्रति अपने दृष्टिकोण को पुनः परिभाषित करने की अपेक्षा करता है।

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