Case Report

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Management of Hepatitis B with Siddha Medicine: A Case Report

Ayurveda Section

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ABSTRACT

Hepatitis B is a viral disease that causes acute and chronic liver diseases. The Hepatitis B Virus (HBV) infects more than 300 million people worldwide, and over 686 billion people die every year due to its consequences. Present case is of a 59-year-old male patient with positive Hepatitis B envelope Antigen (HBeAg) and a remarkably high viral load of HBV Deoxyribonucleic Acid (DNA) presented as a previously diagnosed case of chronic hepatitis. He came to the Outpatient Department (OPD) Siddha Clinical Research Unit (SCRU) with complaints of loss of appetite, abdominal discomfort, malaise and constipation. Based on his symptoms, supported by blood investigation reports and Siddha parameters, internal medicines such as *Elathy Chooranam*, *Silasatthu Parpam*, *Ayabringaraaja Karppam*, *Saanthachandrodaya Maathirai*, *Keezhanelli Maathirai*, and *Nilavembu Kudineer* were prescribed. The effects of the treatment modalities were monitored during follow-up with routine blood examinations. After six months of treatment, the HBV viral load reduced from 203,000,000 IU/mL to 125.89 IU/mL, and HBeAg became non reactive. The reported case had a prospective follow-up for six months and was found to be free of all clinical symptoms. It is evident that Siddha medicine shows a decrease in the level of HBV DNA viral load, delays the hepatocyte damage caused by the HBV, and has proved to have no side-effects at a lower cost. Since this study was based on a single case, further randomised controlled clinical trials need to be conducted with a larger population.

Keywords: Hepatoprotective, *Manjal noi*, *Phyllanthus niruri*, Traditional medicine, Viral disease

CASE REPORT

A 59-year-old male patient visited with chief complaints of loss of appetite, abdominal discomfort, burning sensation in the epigastric region, malaise and constipation for one month. A gastroenterologist evaluated him, and he was incidentally found to have a remarkably high viral load of HBV DNA with positive HBeAg. The patient was non alcoholic, had no relevant familial history and had no history of blood or blood product transfusions. The patient had acid peptic disease (erosive oesophagitis and gastritis) for six months, type 2 diabetes mellitus and Grade 1 fatty liver in the past five years.

Physical examination revealed that the patient was conscious, oriented, well-built and well-nourished, with a height of 155 cm and a weight of 78 kg. Vital examination: blood pressure - 110/80 mmHg, pulse rate - 85/min, respiratory rate - 19/min, temperature - afebrile, and the level of saturation of peripheral oxygen (SpO_2) - 96% at room air. Upon general examination, there was no pallor, icterus, cyanosis, clubbing, or lymphadenopathy.

Systemic examination revealed that the respiratory system had normal vesicular breath sounds, with no added sounds; the cardiovascular system had S1 and S2 heard; the abdomen was soft and non tender, with no organomegaly and no free fluid; the central nervous system showed the patient was well-oriented to time, place, and person, and was conscious.

Diagnostic assessment: The patient's condition was assessed using *En vagai thervu* (the eight-fold system of clinical assessment in Siddha Medicine) and laboratory investigations [Table/Fig-1] [1].

Laboratory investigations: Complete blood count and basic metabolic panel results were within normal limits. Serology and liver function tests were performed, and the findings are reported in [Table/Fig-2,3] [2,3].

Therapeutic Intervention

The patient was finally diagnosed with hepatitis B infection based on general and systemic examinations, as well as serological and haematological findings. The patient was administered medications for six months in an OPD, with regular follow-ups during the intervention. All the interventions are presented in [Table/Fig-4][4-8].

***Naadi*/Pulse**	*Pitha kabam*
***Sparisam*/Touch**	*Mitha veppam*
***Naa*/Tongue examination**	*Iyalbu*/Normal
***Niram*/Colour of the body**	*Pitha Vatha Thegi*
***Mozhi*/Speech**	*Iyalbu*/Normal
***Vizhi*/Eye examination**	*Iyalbu*/Normal
***Malam*/Stool**	*Irugal*/constipation
***Moothiram*/Urine examination**	*Iyalbu*/Straw colour

[Table/Fig-1]: *En vagai thervu* (Eight-fold system of clinical assessments in Siddha Medicine) [1].

Liver function test	Biochemical value			Normal range values [2]
	Before treatment	After treatment	Follow-up	
Bilirubin total (mg/dL)	0.6	0.5	0.4	0.30-1.20
Bilirubin direct (mg/dL)	0.1	0.2	0.1	0.00-0.20
Bilirubin indirect (mg/dL)	-	0.30	0.3	0.2-0.8
Aspartate aminotransferase (AST) (U/L)	34	21.4	23.2	10-50
Alanine aminotransferase (ALT) (U/L)	50	17.9	38.3	Up to 41
Albumin (gm/dL)	-	4.6	4.5	3.5-5.2
Globulin (gm/dL)	-	2.6	2.8	2.5-4.5
Alkaline phosphatase (ALP) (U/L)	68	70	90.1	40-130
Gamma-glutamyl Transferase (GGT) (U/L)	-	21.5	29.3	10-71

[Table/Fig-2]: Liver function test results taken before, after and follow-up of the treatment.

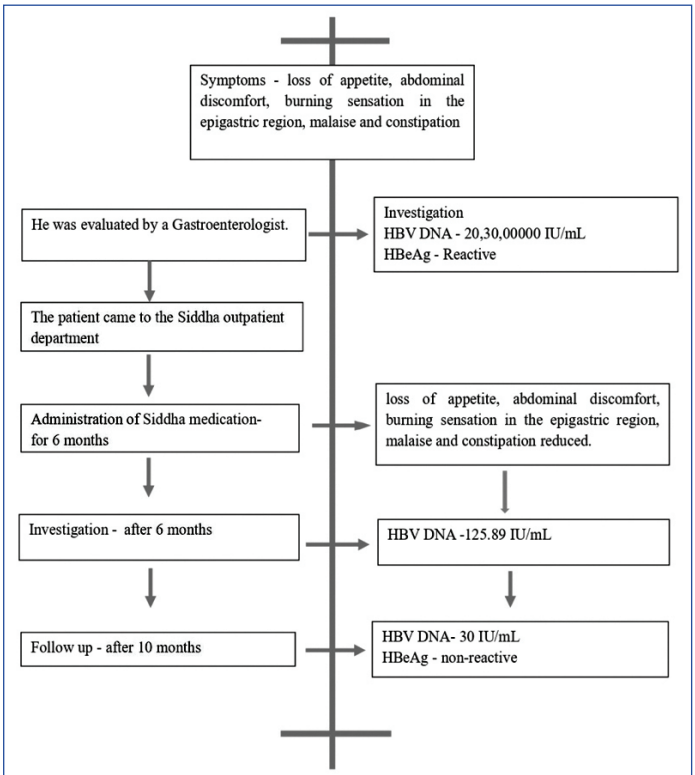
Marker [3]	Before treatment	After treatment	Follow-up
HBV-DNA (IU/mL)	20,30,00000	125.89	30
Hepatitis B envelope Antigen (HBeAg)	Reactive	-	Non reactive

[Table/Fig-3]: Serology test results taken before, after and follow-up of the treatment.

Timeline of the patient is shown in [Table/Fig-5].

S. No.	Intervention	Dose	Adjuvant	Treatment duration
1	*Saanthachandrodaya Maathirai* [4-6]	1 tab twice a day after food	Warm water	First 3 days only
2	*Nilavembu Kudineer* [4,5,7]	50 mL twice a day after food		7 days medication followed by 7 days drug holidays for 2 months
3	*Keezhanelli Maathirai* [4,5,7,8]	2 tab twice a day before food	Buttermilk	6 months
4	*Elathy Chooranam* [4,5,7]	1 gm twice a day after food	Honey	15 days of medication followed by 15 days of drug holidays for 6 months
	Silasatthu Parpam [4-6]	100 mg twice a day after food		
	Ayabringaraaja Karppam [4-6]	100 mg twice a day after food		

[Table/Fig-4]: Siddha therapeutic intervention prescribed for the management of Hepatitis B.



[Table/Fig-5]: Timeline of the patient.

Follow-up and Outcomes

The patient attended the OPD regularly every 15 days, and all the mentioned medications were given for a consecutive six months. No adverse drug reactions were reported during the treatment period. After one month of treatment, there was significant improvement in his clinical features, and symptoms such as loss of appetite, constipation, abdominal discomfort, burning sensation in the epigastric region, and malaise were completely resolved. By the end of six months, the patient's liver function and hepatitis B serologic tests were conducted. The HBV DNA was reduced from 20,300,000 IU/mL to 125.89 IU/mL, and HBeAg was non reactive.

Informed consent: The authors declared that they had collected all the necessary consent forms from the patient. The patient has indicated in the form that he is willing for his clinical imaging and other information to be reported in the journal.

DISCUSSION

Hepatitis is defined as an inflammation of the hepatic parenchyma caused by viruses, as well as non infectious causes such as drugs, alcohol, immunologic factors, metabolic diseases, toxins and ischaemia [9]. HBV, one of these viruses, is responsible for many cases of hepatitis. It is a partly double-stranded DNA virus that belongs to the *Hepadnaviridae* family and causes both acute and chronic liver infections [10].

Hepatitis B may be classified as *Manjal Noi* (National Siddha Morbidity Codes (NSMC): AB) [11] in Siddha medicine based on clinical features. According to Siddha literature, liver diseases occur due to the derangement of the *Azhal* and *Aiyam* humours. Consequently, most of the drugs mentioned for *Manjal Noi* are neutralisers of the *Azhal* and *Aiyam* humours [4]. A previously published study also validates the successful management of viral hepatitis B infection with Siddha medicines [12]. In another case study, effective management of acute viral hepatitis was demonstrated by a drastic reduction in raised serum bilirubin levels achieved solely through combinations of Siddha medicines [8]. In this case, *Saanthachandrodaya Maathirai* (herbo-mineral Siddha medicine) and *Nilavembu Kudineer* (an herbal decoction in Siddha) were chosen as the first line of treatment. Due to the expulsion of excessive *pithu* neer (bile or bilirubin), *Saanthachandrodaya Maathirai* [13] was administered along with honey, as it is a widely used Siddha herbo-mineral formulation for the treatment of *Piththa Suram* (NSMC: WAB1.1). *Nilavembu Kudineer*, which is indicated for *Suram* (NSMC: Z#10), has also demonstrated significant hepatoprotective activity against carbon tetrachloride-induced hepatotoxicity in rats in preclinical studies [14].

A combination of *Keezhanelli Maathirai*, *Elathy Chooranam*, *Silasatthu Parpam*, and *Ayabringaraaja Karppam* was provided for six months. The whole plant of *Keezhanelli* (*Phyllanthus niruri*) is an exceptional herb indicated for *Manjal Noi*. It has astringent, bitter, sour, and sweet tastes [7], and it has the property of neutralising *Azhal* because the humour *Azhal* is compensated by sweet, astringent, and bitter tastes. Scientifically, the whole plant extract of *Phyllanthus niruri* has shown antiviral activity against HBV. In another study, the aqueous and methanolic extracts of *Keezhanelli (P. niruri)* exhibited hepatoprotective activity [15]. *Ayabringaraaja Karppam* is a herbo-mineral Siddha formulation that has shown promising hepatoprotective effects against paracetamol-induced liver damage in a zebrafish model [16].

As the patient had previously suffered from acid peptic disease, *Silasatthu Parpam* and *Elathy Chooranam* [17] were administered due to their potential antiulcer and *Azhal* neutralising activities. After three months of treatment, the patient recovered from symptoms including loss of appetite, abdominal discomfort, burning sensation in the epigastric region, malaise and constipation.

CONCLUSION(S)

This was a single-case study that validated the efficacy of Siddha medications in the management of HBV. As mentioned above the treatment protocol was followed for six consecutive months. In this case, it was found to be effective in clinical, biochemical, and serological aspects. Furthermore, the patient's clinical presentation and abnormal viral load of HBV DNA significantly decreased. No Adverse Drug Reactions (ADRs) were reported during the entire treatment. The results of the single-case study underscore the need for further validation through well-designed clinical research, highlighting that Siddha medicine may be beneficial in the treatment of hepatitis B infection.

Patient Perspective

"I had chief complaints of loss of appetite, abdominal discomfort, a burning sensation in the epigastric region, malaise, and constipation. I consulted with a gastroenterologist who evaluated me. I had a remarkably high viral load of HBV DNA with positive HBeAg. Then, I came to the Siddha Clinical Research Unit (SCRS) OPD in Bengaluru. The doctor advised me to take Siddha medicines. After one month of treatment, my symptoms had slightly reduced, and I felt better. After six months, my abnormal blood parameters were markedly reduced, and I continued my medicines until I recovered."

Author's contribution: EC and EV: Conceived, designed, performed the analysis and constructed the manuscript. MR and KM: Reviewing, editing, supervision, and guidance for the finalisation of the manuscript.

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