



International Journal of Contemporary Research In Multidisciplinary

Case Study

An Integrated Approach in Hepatitis B: A Case Study

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DOI: <https://doi.org/10.5281/zenodo.11533949>

Abstract	Manuscript Information
<p>Introduction: Liver, the largest organ of human body, is located in the right upper quadrant of abdomen, beneath the diaphragm. Inflammation of liver cells by any cause resulting in elevated liver function markers is known as hepatitis. Hepatitis B is a DNA virus which falls under Hepadna group. It is transmitted through blood, saliva, sexual contact, vertical route (HBsAg positive mother) and chronic infection. Present case was studied and aimed to evaluate the efficacy of ayurvedic and allopathic principles in an integrated way for the management of Hepatitis B.</p> <p>Material and methods: A 31 yrs. old male patient, presented to Kayachikitsa OPD of Naturecare Hospital, Kathmandu with the known case of Hepatitis B. Associated symptoms like loss of weight, poor appetite, nausea and severe body pain was present. After detailed history taking, careful clinical examination, laboratory investigation, management was planned with proper diet and drug adjustment. Based on the principles of ayurveda and allopathic system, Cap. Liv 52 HB, Tab. Nirocil and Tab. Entecavir was prescribed.</p> <p>Conclusion: Medicine showed remarkable reduction in Hepatitis B virus-viral load (quantitative), alpha fetoprotein HBsAg within 6 months of medication signifying the excellence and effectiveness of integrated approach the management of Hepatitis B.</p>	<ul style="list-style-type: none"> ▪ ISSN No: 2583-7397 ▪ Received: 01-05-2024 ▪ Accepted: 03-06-2024 ▪ Published: 08-06-2024 ▪ IJCRM:3(3); 2024: 71-74 ▪ ©2024, All Rights Reserved ▪ Plagiarism Checked: Yes ▪ Peer Review Process: Yes
	How to Cite this Manuscript
	<p>Hari Sharan Aryal, Rama Bhandari, Sanju Bhusal, Bijaya Puri. An Integrated Approach in Hepatitis B: A Case Study. International Journal of Contemporary Research in Multidisciplinary.2024; 3(3): 71-74.</p>

KEYWORDS: Liver, Hepatitis B., Yakritshoth, Ayurveda, Allopath

1. INTRODUCTION

Liver, the largest organ of human body, is located in the right upper quadrant of abdomen, beneath diaphragm, intraperitoneally between 5th intercostal space to the lower border of 11th ribs anteriorly, and T9 to T12 - L1 posteriorly^[1]. Inflammation of liver cells by any cause resulting in elevated liver function markers is known as hepatitis. If this lasts less than 6 months, it is called acute hepatitis and if longer than 6 months then termed as chronic hepatitis^[2] Hepatitis B is a DNA virus which falls under Hepadna group. It is transmitted through blood, saliva, sexual contact, vertical route (HBsAg positive mother) and chronic infection.

Hepatitis B surface antigen (HBsAg) is a protein which makes up the part of viral envelope. Hepatitis B core antigen (HBcAg) is a protein which makes up the core part of virus (found in liver but not in blood). Hepatitis B e antigen (HBeAg) is part of the HBcAg which can be found in the blood and indicates infectivity. Till date, measurement of HBV deoxyribonucleic acid (DNA) levels, although being expensive, time-consuming, and requiring trained personnel, is the gold standard evaluation method. Quantitative hepatitis B surface antigen (qHBsAg) is currently being considered as an alternative biomarker because it is simple, inexpensive, rapid, and reflects the transcription activity of the covalently closed circular DNA (cccDNA) in nuclei of liver cells.^[3] Nepal is classified as low endemic region

for hepatitis B virus infection (HBV) with overall seroprevalence of 1.1%. But some ethnic groups and geographical areas have high prevalence rates. Despite low endemicity, HBV accounts for majority of cases of hepatocellular carcinoma and liver cirrhosis in the country.^[4]

2. MATERIAL AND METHOD

Case Report

A 31 yrs. old male patient presented to the Kayachikitsa OPD of Nature care Hospital, Kathmandu with OPD no. 1302/068/069 in 17/07/2022 as the known case of Hepatitis B based on his blood parameters. Associated symptoms of reduction of weight, poor appetite, nausea and severe body ache were present. No any history of fever, chills, rigor, yellowish discoloration of body and other past illness is present.

PERSONAL HISTORY

Bowel-

Colour: Light yellow
 Consistency: Loose non-sticky
 Frequency: 2 times/day,
 Absence of pus, mucus, worms and undigested food particles.
 No history of incomplete evacuation of bowel.

Bladder-

Colour: Light Yellow
 Normal in frequency and odour. Absence of nocturia, turbidity and particles.

Appetite- Loss of appetite, reduced intake

Sleep- 7 hours of sound sleep

Addiction- Regular intake of alcohol

(Type -Local alcohol)

Percentage alcohol – 42% Amount – 150ml

Duration -14 yrs.

CAGE Questionnaire– 4

Allergy – No known history of allergy against dust, drug or diet.

Occupation- Unemployed

EXAMINATION

General Examination

General Appearance- Fair

General Body built- Average

General Personality- Introvert

General Condition

- Solid: Height- 5'9"
 Weight – 55 kg
 BMI – 17.91kg/m square
- Liquid – Dehydration absent
- Mental component – Oriented to time, place and person

Pallor- Absent

Icterus- Absent

Cyanosis – Absent

Clubbing – Absent

Glands- Lymph nodes are-non palpable, Thyroid: normal

Oedema – Absent

Joints, Gait, Hair – Normal

Involuntary movements - Absent

Skin – Dry

Nail- Normal

Pulse – 82 bpm as measured in rt. radial artery, regularly regular, Normal in volume

Temperature – 98 F

Blood Pressure – 110/ 80 mm of Hg as measured in right arm by auscultatory method in sitting position.

Respiration - Rate 20/min

Rhythm-regular

Type-abdomino thoracic

Pupillary reaction – B/l round, regular and reactive to light. Normal in size and accommodation.

Systemic Examination

Gastro Intestinal

Mouth, Tongue, Pharynx - Normal

Abdomen

Inspection –Non distended. Umbilicus centrally located and inverted. All quadrants moving equally with respiration. No visible lump, engorged veins or peristalsis.

Palpation –Non tender and afebrile. No any organomegaly

Percussion- Tympanic note over abdomen, absence of shifting dullness and fluid thrills.

Auscultation – Normal bowel sound heard.

Respiratory System

Nose- Normal Chest

Inspection – Bilaterally symmetrical, elliptical shape, trachea central in position, abdomino-thoracic type of movement.

Palpation – Afebrile, Non-tender, Apex beat palpable at normal position

Percussion – Resonance in lung field, dull in cardiac field

Auscultation – Bilateral equal air entry, Normal vesiculo-bronchial sound, no added sound.

Cardio- Vascular System – S1S2M0

Musculo-skeletal system – Grossly intact

Nervous system – Grossly intact

Table 1: Astavidha Parikshya

1.	Nadi (Pulse)	82/min, rhythmic, regularlyregular PittaKaphaja
2.	Mutra(urine)	Light yellow
3.	Mala (Stool)	Loose in consistency, 2times/day, non-sticky
4.	Jihva (Tongue)	Amaja (White coating)
5.	Shabda (Sound)	NVBS, S1S2M0, spastha vaak
6.	Sparsha(touch)	Samasheetata
7.	Drika(eye)	Normal
8.	Aakriti(built)	Madhyam

PROVISIONAL DIAGNOSIS: Hepatitis B

MANAGEMENT OF CONDITION: 07/19/2022

DRUGS	DOSE
Cap Liv52 HB	2 Cap BD for 6 months
Tab Nirocil	2 Tab BD for 6 months
Tab Entecavir	0.5mg OD for 6 months

3. RESULT INVESTIGATION

Investigation	Before Treatment (07/19/2022)	After treatment (01/13/2023)
CBC	Hb: 14.9gm/dlPCV:43.1% TLC: 4800/cumm DC: N50L44M03E03B00 Platelets: 173000/cumm	Hb: 16.1gm/dlPCV:44.8% TLC: 5600/cumm DC: N45L46M05E04B00 Platelets: 233000/cumm
AFP (Alfa Feto Protein)	11.47 ng/ml	2.70 ng/ml
LFT	Bilirubin Total: 1.5 Bilirubin Direct: 0.3 SGPT: 34U/L SGOT: 30U/L ALP: 98U/L	Bilirubin Total: 1.4 Bilirubin Direct: 0.2 SGPT: 35U/L SGOT: 40U/L ALP: 79U/L
Hepatitis B virus- Viral load, Quantitative, By Real time PCR	11,578.80IU/ML	<20IU/ML
HBsAg	613 Index	1 Index
USG	Mild coarse echotecture of liver S/O Chronic Liver Parenchymal Diseases	Fatty Liver Grade -I

4. DISCUSSION

Hepatitis is inflammation of liver parenchyma where the infected person presents with fever, reduction of body weight, severe body ache, yellowish discolouration of skin, sclera, muscosa and other fluids.^[5] According to Ayurveda, hepatitis is

acknowledged as yakritshoth. In yaakritshoth, shaman chikitsa is recommended by Bhavaprakash.^[6] In this case, Tab. Nirocil, Cap. Liv52 HB and Tab Entecavir is prescribed for 6 months. Ingredients in Cap. Liv52 HB^[7], their classical and contemporary relevance are as follows:

Drugs	Classical relevance	Contemporary relevance
Mustaka (<i>Cyperus Rotundus</i>)	Pittakapha shamaka, Jworaghna, Krimighna, Dipana, Pachaka, othahara, rakta prasadhak, Vishaghna, Balya	Antiviral action in liver ^[3] , has anti-inflammatory property ^[9] The ethanolic extract of tuber of <i>C. rotundus</i> showed significant anti-inflammatory activity against carrageena induced paw oedema. ^[10] The ethyl acetate extract of <i>C. rotundus</i> exhibited a significant hepatoprotective effect by lowering serum levels of glutamic oxaloacetic transaminase, glutamic pyruvic transaminase, alkaline phosphatase and total bilirubin ^[11] Anti-microbial, antihelmenthic, antiplasmodial activities ^[12]
Nagarmustaka (<i>Cyperus Esculentus</i>)		Antioxidant ^[13] and anti-inflammatory properties. Antiviral and also normalize liver enzymes.

Tab. Nirocil is composed of Bhumyamalaki. Its classical and contemporary relevance are as follows;

Drug	Classical relevance	Contemporary relevance
Bhumyamalaki (<i>Phyllanthus Urinaria</i>)	Kaphapitta shamaka, Sothahara, Yakrit utejaka, Anulomana, Vishaghna, Balya, Jworaghna, Dipan, pachana, Anulomana, Rakta sodhaka, Kaamala nashaka	Antiviral experiments on HBsAg in vitro and liver damage caused by CCl4 have shown that <i>Phyllanthus urinaria</i> possesses antiviral activities against HBV. Methyl ester dehydrochebulic acid and methyl brevifolin carboxylate play the chief role ^[14] Statistically significant reversal of the elevated serum levels of transaminases (GOT and GPT) were used as the biochemical indices for hepatoprotection using alcoholic extract of <i>P. urinaria</i> . ^[15] Potent Antioxidant ^[16] , Anti-inflammatory ^[17] and Immunomodulator.

Tab. Entecavir is allopathic medicine used in treatment of hepatitis B Virus. It is selective HBV DNA polymerase inhibitor. Inhibition blocks reverse transcriptase activity, which in turn reduces viral DNA synthesis. By suppressing viral replication, it helps to slow down progression of liver damage^[18]. Under six month of medication, patient felt symptomatically good and similar was observed in lab investigation.

medication plan and strategy were applied which significantly improved Hepatitis B virus –viral load quantitative, HBsAg and alpha fetoprotein. This case shows that integrated approach for management of Hepatitis B is effective.

5. CONCLUSION

Hepatitis B virus was successfully managed by integrative approach. Being under the guidance of ayurvedic shastra,

REFERENCES

- Colledge NR, Walker BR, Ralston SH. Davidson's Principles and Practice of Medicine. 21st ed. 2010. p. 948-949.
- Schaefer TJ, John S. Chronic Liver Disease. Treasure Island (FL): StatPearls Publishing; 2023 Jan.

3. Nirmala VFI, Aryati A, Susianti H, Mustika S. Correlation Between Quantitative Hepatitis B Surface Antigen and Hepatitis B Virus Deoxyribonucleic Acid Levels in Hepatitis B e Antigen-Positive and Hepatitis B e Antigen-Negative Chronic Hepatitis B Patients. *Turk J Gastroenterol.* 2023 Apr;34(4):378-382.
4. Shrestha A. Epidemiology of Viral Hepatitis and Liver Diseases in Nepal. *Euroasian J Hepatogastroenterol.* 2015 Jan-Jun;5(1):40-42.
5. Colledge NR, Walker BR, Ralston SH. *Davidson's Principles and Practice of Medicine.* 21st ed. 2010. p. 948-949.
6. Sitaram B. Bhavprakash of Bhavmishra. English translation, vol. 2. Varanasi: Chaukhamba Orientale; Pg. 385.
7. Pharmacy.in/Healthcare/Products/Himalaya-liv-52-HB-Capsules-10-S-12833.
8. Samra R, Soliman A, Zaki A, Gendy A. Chemical Composition, Antiviral and Cytotoxic Activities of Essential Oil from *Cyperus Rotundus* Growing in Egypt: Evidence from Chemometrics Analysis. *J Essent Oil-Bear Plants.* 2020;23(3):648-659.
9. Nalini Sofia H, Vetha Merlin Kumari H, Thomas MW, Senthil Kumar SG. Acute and Subacute toxicity study of and antidiabetic polyherbal preparation, Atthippattaryathi (Kasayam). *J Pharm Res.* 2014;8(7):915-919.
10. Biradar S, Kangralkar VA, Mandavkar Y, Thakur M, Chougule N. Anti-inflammatory, Anti-Arthritic, Analgesic and Anti-convulsant activity of *Cyperus* essential oils. *Int J Pharm Pharm Sci.* 2010;2(4):112-115.
11. Kumar SV, Mishra SH. Hepatoprotective activity of Rhizome of *Cyperus Rotundus* against Carbon tetrachloride-induced Hepatotoxicity. *Indian J Pharm Sci.* 2005;67(1):84-88.
12. Kumar M, Rani M, Meher B. Review on pharmacology and phytochemistry of *Cyperus Rotundus* L. *Curr Res Pharm Sci.* 2017;8:11-15.
13. Oloyede GK, Abimbade SF, Nwabueze CC. Antioxidant and toxicity screening of extracts obtained from *Cyperus esculentus*. *Academ Arena.* 2014;6(1):77-83.
14. Zhong Y, Zuo C, Li F, Ding X, Yao Q, Wu K, *et al.* Chemical constituents of *Phyllanthus urinaria* L. and its antiviral activity against hepatitis B virus. *Zhongguo Zhong Yao Za Zhi.* 1998 Jun;23(6):363-4, 384. Chinese. PMID: 11601301.
15. Prakash A, Satyan KS, Wahi SP, Singh RP. Comparative hepatoprotective activity of three *Phyllanthus* species, *P. urinaria*, *P. niruri* and *P. simplex*, on carbon tetrachloride induced liver injury in the rat. *Phytother Res.* 1995 Dec;9(8):594-596.
16. Xu M, Zha ZJ, Qin XL, Zhang XL, Yang CR, Zhang YJ. Phenolic Antioxidants from the Whole Plant of *Phyllanthus urinaria*. *Chem Biodivers.* 2007 Sep;4(9):2246-2252.
17. Fang SH, Rao YK, Tzeng YM. Anti-oxidant and inflammatory mediator's growth inhibitory effects of compounds isolated from *Phyllanthus urinaria*. *J Ethnopharmacol.* 2008 Mar;116(2):333-340.
18. Acosta EP, Flexner C. Antiviral agent (nonretroviral). In: Brunton LL, Chabner BA, Knollmann BC, editors. *Goodman & Gilman's: The Pharmacological Basis of Therapeutics.* New York: McGraw-Hill Medical; 2011. pp. 616-617.

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