



### Case Report

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## A case of Hepatitis B Virus - associated Hyperbilirubinemia resolves after seven (7) years

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### Abstract

Hyperbilirubinemia in a 28 year old Hepatitis B Virus (HBV) – infected client resolved after Heptovit™ medication (an Ayurvedic Poly-Herbal formulation). Before the first Liver Function Test (LFT), two key presumptive signs were detected; dark yellow urine, and a clear yellowish tinge on the cornea. Two (2) capsules of Heptovit™, postprandial, was prescribed in the morning and evening for the client. Initial total, direct and indirect bilirubin values of 2.7 mg/dL (0.2-1.5 mg/dL), 0.7 mg/dL (0.1-0.2 mg/dL) and 2.0 mg/dL (0-1.3 mg/dL) resolved eventually to values within the normal ranges after 12 months of treatment. Infection has persisted in the acute phase even after seven years of diagnosis and management.

**Keywords:** Hepatitis B Virus (HBV), Hyperbilirubinemia, Liver Function Test (LFT).

### INTRODUCTION

Hepatitis B virus (HBV) infection is a cosmopolitan problem and it can cause acute and chronic hepatitis, cirrhosis and hepatocellular carcinoma (HCC) cells<sup>[1]</sup>. In total, about 2 billion people are estimated to have had contact with HBV. Out of this, approximately 350-373 million people have become chronic carriers of the disease<sup>[2,3]</sup> Approximately one (1) million of these die annually from HBV- related liver disease<sup>[4,5,6,7]</sup>. It is generally known that HBV infection may occur through cuts/bruises (skin/mucosa), sexual contact, needles or other contaminated instruments, injecting drug use, blood transfusion, dental procedures or vertical transmission (through the placenta, at birth or during breastfeeding)<sup>[8]</sup>.

In Ghana, prevalence ranging from 8–15% in urban and some parts of rural areas has been reported. This suggests that the disease is endemic<sup>[9,10]</sup>. Ghana is part of the areas of the world with a high prevalence (>8%) of chronic HBV infection<sup>[11]</sup>. General body malaise, loss of appetite, weight loss, vomiting, tiredness, dark coloured urine, jaundice (yellowish eyes, skin and urine) and right upper abdominal pain may present at the early stages of an acute infection<sup>[12]</sup>.

Antiviral therapy may be crucial to prevent the progression of liver cirrhosis, and to reduce end-stage liver disease and HCC. Antiviral agents for the treatment of chronic hepatitis B (CHB) include nucleoside/nucleotide analogues (NAs) and interferon-alpha (standard or pegylated). Seroclearance or seroconversion of hepatitis B surface antigen (HBsAg) is generally considered as the ideal clinical goal of antiviral therapy<sup>[13,14]</sup>.

The Metropolitan Hospital, Cape Coast, has since 2011, integrated Orthodox Medicine with Herbal/Traditional Medicine in Health Care Delivery in the Cape Coast Metropolitan Area, Ghana. In 2016 we started using Heptovit™ imported from India by the 'Save Your Liver Foundation,' Ghana. Heptovit™ has undergone an open label, non-comparative, multi-centre clinical trial for the management of viral hepatitis (Trial document available at <http://www.millenniumherbal.com/index.php/professional-resource-centre/heptovit>). Herein, we report our experience with an adult who had been living with acute hepatitis B for the past seven (7) years and was severely jaundiced. He had been on orthodox medications all this while from other facilities and was advised to stop and seek alternative remedies.

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## CASE REPORT

### Summary History (SH)

A 28 year old male client was diagnosed with hepatitis B seven years ago (2010). He is not sure of when and how the infection was contracted. According to him, all his siblings back in his hometown have been diagnosed positive as well. Vital signs on the first day of reporting; blood pressure was 100/60 mmHg, axillary temperature 35.8°C and weight 51 kg. Liverlin Forte had been prescribed elsewhere. He normally buys food from outside, takes about 1L of water daily and seldom eats fruits and vegetables. He is sexually active, never had an accident, blood transfusion or been on narcotics. The client's first physical examination is as summarized in Table 1.

**Table 1:** General physical examination on the first day of visit

ODQ	Fever <sup>+</sup> , yellowish urine <sup>+</sup> , yellow tinge in the eyes <sup>+</sup> , chills <sup>o</sup> , anorexia <sup>o</sup> , dizziness <sup>o</sup> , headaches <sup>+</sup> easily fatigued <sup>o</sup> , palpitations <sup>o</sup> , cough <sup>o</sup> , abdominal pains <sup>o</sup> , constipation <sup>o</sup> , diarrhoea <sup>o</sup> , frequent urination <sup>o</sup> , nocturia <sup>o</sup> , dysuria <sup>o</sup> ,
PMH	Nil
DH	Nil
Abd	Non-tender, no masses seen or felt

ODQ – on direct questioning; PMH – past medical history; DH – drug history; Abd – abdomen

<sup>+</sup>Present

<sup>o</sup>Absent

### Dosage

Client was given 60 (two boxes) capsules each month and was asked to take two capsules bxd, postprandial.

### Physical examination on subsequent visits

A monthly routine regimen was set for the client. There were no major complaints after the first three (3) months of medication. Vital signs remained normal, with the yellowish eyes and urine clearing over time. Client was encouraged to increase water and fruit/vegetable intake.

### Adverse Drug Reaction (ADR)

No ADR was reported by the clients.

## RESULTS AND DISCUSSION

### Hepatitis B Combo Test

The following results are suggestive of an acute hepatitis B infection; HBsAg (+), HBsAb (-), HBeAg (+), HBeAb (+) as confirmed earlier [Abon HBV Combo (Abon Biopharm Co. Ltd, Hangzhou, China)]. The presence of HBeAg and absence of HBsAb indicates that the infection is acute.

### Liver Function Tests (LFTs)

The summary of the result in the 1st month before treatment is a clear example of an acute hyperbilirubinemia, resulting in the yellowish urine and tinge in the eyes (Table 2). The basis of this abnormality could be attributed to decreased hepatic clearance due to hepatitis B infection. Serum bilirubin is considered a true test of liver function, as it reflects the liver's ability to take up, process and secrete bilirubin into bile. The remaining LFTs after the medication show complete restoration of bilirubin levels. The AST, ALT and ALP values indicates that there is no hepatic damage/injury due to the infection. It is suggested that the transition from acute to chronic infection could be as a result of a failure of immune clearance of virus-infected cells, and is marked by persistence of high levels of HBV DNA and HBeAg in serum [15]. Globulin levels remained high throughout as it is generally

expected with liver abnormalities. In our case, the infection has persisted in the acute stage for the past seven years. There are two possibilities; either the client's immune system has remained strong over the years to prevent conversion to the chronic stage, or the chronic phase has been reactivated back to the acute stage.

**Table 2:** Liver function parameters measured

Parameter	Dates on which LFTs were performed				Reference Range
	18/05/16 On 1 <sup>st</sup> month	02/08/16 On 3 <sup>rd</sup> month	16/01/17 On 8 <sup>th</sup> month	26/05/17 On 12 <sup>th</sup> month	
(sGOT) AST	13	16	19	17	5-34 U/L
GPT (ALT)	12	13	33	30	0-36 U/L
Alkaline Phosphatase.	249	127	342	302	70-390 U/L
GGT	26	16	35 (H)	27	2-30 U/L
Total Protein	76	71	62	71	62-85 g/L
Albumin	42	40	40	42	35-50 g/L
Globulin	34 (H)	31 (H)	22 (L)	29 (H)	23-28 g/L
Bilirubin – Total	2.7 (H)	0.8	0.7	0.9	0.2-1.5 mg/dl
Bilirubin – Direct	0.7 (H)	0.1	0.1	0.1	0.1-0.2 mg/dl
Bilirubin – Indirect	2.0 (H)	0.7	0.6	0.8	0-1.3 mg/dl
(sGOT) AST – (serum Transaminase	Glutamic-Oxaloacetic Transaminase)				Aspartate
(sGPT) ALT – (serum Transaminase	Glutamic-Pyruvic Transaminase)				Alaline Transaminase
GGT	Gamma-Glutamyl Transpeptidase				
LFTs*	performed exclusively with the fully automated Mindray BS <sup>o</sup> Biochemistry Analyzer				

## CONCLUSION

Management of this single case highlights the resolving strength of Heptovit™ in a severely jaundiced acute hepatitis B infected patient. We intend following up on subsequent cases in the coming years to see the outcome.

### Conflict of interest

The authors declare that there is no conflict of interest regarding the publication of this case study.

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