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# RAPID CLEARANCE OF HBSAG AND LIVER TRANSAMINASE IN HEPATITIS B INFECTION WITH CLASSICAL AYURVEDIC FORMULATION: CASE STUDY

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**ABSTRACT**

Phyto-medicines have been used traditionally by herbalists and indigenous healers worldwide for the prevention and treatment of liver diseases specially jaundice. More than sixty percent of jaundice patients of our country have the 1st choice to visit to traditional healers for their treatment. Classical text of Ayurveda vividly narrated about Kamala (Jaundice) and many classical formulations are in active practice along with anupana (adjuvents)). Hepatitis is one of the causes for Kamala (Jaundice). None of the classical Ayurveda formulation's therapeutic outcome is studied meticulously in hepatitis infections. Therefore we plan to observe the outcome of hepatitis cases treated with conventional Ayurveda treatment. Here we presented one hepatitis B infection treated with two classical Ayurvedic formulations, Argyavardhinivati along with leaf juice of *Bhumyamlaki* (*Phyllanthusfraternus* G.B.Wbster.) and triphlachurna. The loss of HBsAg has taken place in 45days. SGOT and SGPT were normalised after 45days of treatment. It is very clear from this observational study that Argyavardhinivati along with leaf juice of Bhumyamlaki (*Phyllanthusfratarnus* L.) and Triphlachurna have significant role to clearance of HBs Ag rapidly and normalise Liver Transminase in Hepatitis B infection within 45days. RCT on large sample is recommended.

**KEY WORDS**

Transminase in Hepatitis, Ayurveda formulation and Classical formulations.

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## INTRODUCTION

Hepatitis B remains an important public health concern and a major cause of morbidity and mortality. It also presents a common challenging problem not only for practicing physicians of modern medicine but also for Ayurveda and other AYUSH practitioners[1]. Many people's foreign immigration cancelled due the presence of HBs Ag. Public health agencies estimate that there are about 1.25 million people infected in the United States, but 2 billion people infected worldwide, with approximately 5% of the world's population (or 350 million people) being carriers of chronic hepatitis

B[2]. The state of hepatitis B virus (HBV) DNA < 2,000 IU/mL and alanine aminotransferase (ALT) normalization after treatment is a good prediction in both HBeAg-positive and HBeAg-negative Choronichepaptis B infection. Nevertheless, HBsAg clearance and sero-conversion, characterized by the loss of serum HBsAg with or without anti-HBs antibody development, are the main markers of a successful immunological response to HBV infection and the closest outcome to clinical cure[3-5].

Phyto-medicines have been used traditionally by herbalists and indigenous healers worldwide for the prevention and treatment of liver diseases specially jaundice[6]. More than sixty percent of jaundice patients of our country have the 1st choice to visit to traditional healers for their treatment[7]. Seeff *et al*. found that 41% of outpatients with diagnosis of liver disease had used some form of CAM[8]. The commonly used herbal preparations are Phyllanthus, Silybummarianum, glyccyrrhine, and liv52[9]. Sometimes therapeutic uses of herbal medicines in liver diseases become a question among modern practitioners[10].Clinical research in this century has confirmed the efficacy of several plants in the treatment of liver disease, so the fact that the patients with chronic liver disease seek primary or adjunctive herbal treatment is not surprising. Herbal products are often used to improve well-being and quality of life and to ameliorate side effects in patients on antiviral treatment, as fatigue, irritability, and depression: lessening of these symptoms might permit a higher compliance and avoid the need to limit the dose and finally withdraw inter-feron. It has been clearly shown that herbal products can protect the liver from oxidative injury, promote virus elimination, block fibrogenesis, or inhibit tumor growth[11].

Classical text of Ayurveda vividly narrated about Kamala (Jaundice) and many classical formulations are in active practice along with *anupana* (adjuvant). Hepatitis is one of the causes for Kamala(Jaundice) [12]. Studies reported from China shown disappearance of $HB_SAg$ within 6 months after acute elevation of ALT [13,14] and Genus Phyllanthus have antiviral and positive effect on liver bio-chemistry[15]. None of the classical Ayurvedic formulation's therapeutic outcome is studied meticulously in hepatitis Infections. Arogyavardhinivati is a herbo-mineral preparation with proved hepatoprotective activity [16] and its safety is well established[17]. *Triphala* is one of the classical formulation for Kamala and it has also positive evidence[18]. Contemporary Ayurvedic practitioner has been used this formulation in practice of jaundice. Therefore we plan to observe the hepatitis cases treated with conventional Ayurveda treatment. One hepatitis B infection paient treated with classical Ayurveda formulations i.e. Argyavardhinivati along with leaf juice of *Bhumyamlaki* (*Phyllanthusfraternus* G.B.Wbster.) and triphlachurna was clinically assessed.

**Case Introduction**

One 15 years old male student bearing registration no-5116/11-11-13 came to our general OPD. Patient had visited one local herbalist and one allopathic doctor before coming to our hospital. The condition was not improved then he came to our clinic with all serological and biochemical test.

**Presenting Complaints**

Yellow urination, anorexia, lethargy, weakness since 16-17 days. He had nausea and occasional vomiting since 5days. Mild abdominal cramps since two days.

**History**

This patient has no past history of jaundice. He had no history of sexual contact. There no personal history of consumption of alcohol or intake of nicotine. There is no past history of drug or environmental allergic. Patient's father informed about the outbreak of jaundice in nearby village He was previously diagnosed as hepatitis B patient as his initial HbsAg was positive with total serum bilirubin was 12.6mg/dl

**Baseline findings**

HBsAg- Positive, Hb%- 10.2 mg/dl
Urine bile salt and bile pigment – present
Serum bilirubin-12.6 mg/dl
SGOT-2322i.u
SGPT-3056i.u
Normal Albumin:Globulin.

Clinical examination revealed yellow sclera and nail bed. The physical examination showed slightly palpable liver with yellow sclera. The Patient's digestive fire (Agni) was assessed and found reduced (Manda).

**Diagnosis**

The patient was diagnosed as acute hepatitis B infection in general *Kamala* as per Ayurveda.

**Assessment criteria**

The case was clinically assessed by reduction of yellowness in sclera and urine. HBsAg clearance was assessed by the loss of serum HBsAg with or without anti-HBs antibody development. The blood for liver function test was conducted in D0, D7, D14, D30, D45, D60 and liver transminase were monitored.

**Case conception and treatment selection**

This case has HBV infection with high liver transminase. We think to inactive hepatitis B antigen (HBsAg) which may encounter HBV reactivation as we found treatment induced sero-conversation in 27% cases. As we knew that evolution pattern of serologic marker depends on the outcome of host-immune response. Serological marker appear in hepatitis B is HBsAg then HBeAg. The patient who resolve their infection HBsAg disappearance at about 3 to 6 month often just prior to detection of antibodies[5]. Interferon cleared HBsAg from serum during mean follow up 3.4 -6.2 years. Therefore we plan to increase immunity of this patient, normalize liver function and reduce HBV replication. We administrated Argyavardhinivati along with leaf juice of *Bhumyamlaki* (*Phyllanthusfraternus* G.B.Wbster.) and triphlachurna for this purpose.

**Treatment Plan**

a. Agnideepana (To increase digestive fire)
b. Srotosodhaka (Channel clearance)
c. Sodhana (Purification) by mutrala (diuretics) and virechana (purgation). We treated with two classical Ayurvedic formulations i.e, Argyavardhinivati along with leaf juice of *Bhumyamlaki* (*Phyllanthusfraternus* G.B.Wbster.) and triphlachurna for 45 days. Patient was advised to report on day 7, 14, 21, 30, 45 days of treatment.

**Mid-point and progress**

The patient was assessed on 14 days of treatment for mid-point progress and found the he had good appetite and reduced yellowness in sclera and urine. The liver transminase was reduced significantly.

**End point findings**

At D45HBsAg was negative and liver transminases were within normal limit.

**Treatment implication in this case**

It is noted that there is a gradual reduction of serum bilirubin and transminase (Table No.1 and Figure No.1). The HBsAg was negative in 45 day of treatment and normalise serum bilirubin and transminase. It is very clear from this observational study that Argyavardhinivati along with leaf juice of Bhumyamlaki (*Phyllanthusfratarnus* L.) and triphlachurna have significant role to clearance of HBsAg rapidly and normalise Liver transminase in Hepatitis B infection within 45days.

**Recommendation**

This treatment regimen is recommended for more number of cases of acute and chronic HBsAg positive cases. This treatment regimen can be studied further on viralload, HBeAg and Anti H-Be.

**Table No.1: Serum Bilirubin and transminase level before and after treatment**

| S.No | Treatment day | S.bilirubin(total) mg/dl | SGOT I.U | SGPT I.U |
|---|---|---|---|---|
| 1 | D0 | 12.6 | 2322 | 3056 |
| 2 | D7 | 9.3 | 1880 | 2460 |
| 3 | D14 | 4.5 | 540 | 1030 |
| 4 | D30 | 1.5 | 69 | 136 |
| 5 | D45 | 1.1 | 45 | 50 |
| 6 | D60 | 0.9 | 46 | 45 |

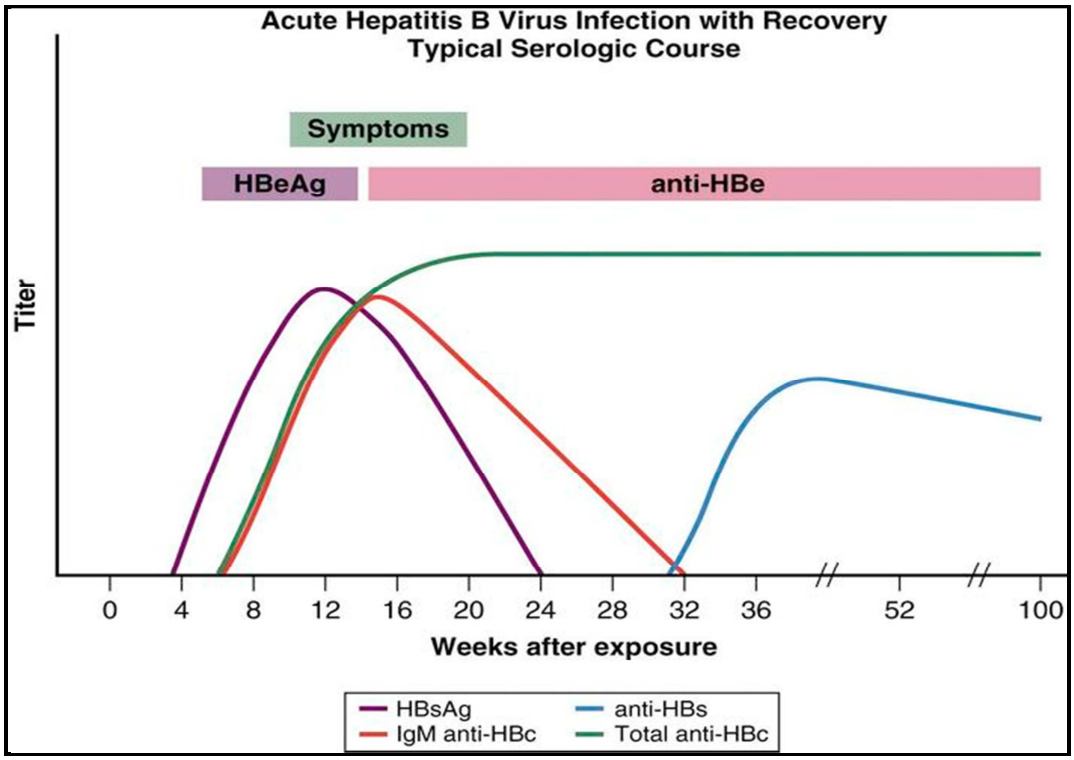


**Figure No.1: Acute Hepatitis Virus Infection**

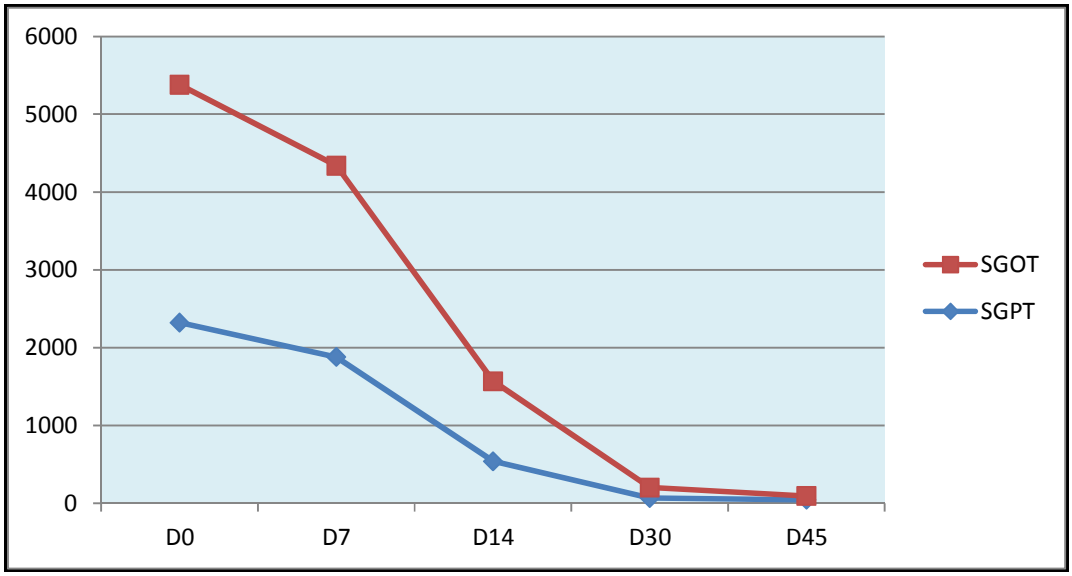


**Figure No.1: Liver transminase level in various days of treatment**

## CONFLICT OF INTEREST

We declare that we have no conflict of interest.

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