



## Research Article

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### AYURVEDIC MANAGEMENT OF EXTRA HEPATIC MANIFESTATION (CUTANEOUS VASCULITIS) IN HEPATITIS-B: A CASE REPORT

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#### ABSTRACT

Hepatitis B virus (HBV) associated vasculitis is an immune mediated disorder. Epidemiologic evidence suggests that extra hepatic (cutaneous vasculitis) manifestations appear in acute and chronic HBV Infection. In this study, an attempt has been made to report the Ayurvedic management of extra hepatic (cutaneous vasculitis) manifestation of Hepatitis B. A 48 year old non-diabetic and non-hypertensive female presented with complaints of acute tender purpura on both the upper and lower extremities. The condition was diagnosed as cutaneous vasculitis on the basis of elevated ESR, anemia and positive HbsAg and Tiryakgata raktapitta according to Ayurveda. The patient was treated with herbo-mineral formulations. The purpuric manifestations subsided (within eight weeks) without any fresh symptoms, though there were no major changes in bio chemical parameters. As there is no cure for vasculitis, an early diagnosis and treatment can help to control symptoms and manage the progression of tissue and organ damage. Though, corticosteroid, immuno suppressants and antiviral drugs form the line of treatment, in this case, the patient was managed through Ayurvedic medication without any systemic manifestation or relapse of symptoms.

**Keywords:** Ayurveda, Hepatitis-B, Tiryakgata Raktapitta, Vasculitis

#### INTRODUCTION

Acute and chronic Hepatitis B Virus (HBV) leads to a number of extra hepatic complications<sup>1</sup>. These extra hepatic manifestations are generally believed to be immune mediated<sup>2</sup>. The prevalence of clinically significant extra hepatic manifestations is comparatively low, but it can be associated with significant morbidity and even mortality. Hepatitis B virus has been well recognized as causing a variety of manifestations that include skin rash, arthritis, arthralgia, glomerulo nephritis, poly arteritis nodosa, and popular acrodermatitis<sup>3</sup>. About twenty percent of the afflicted may develop extra hepatic manifestations from the severe polyarteritis nodosa to less severe clinical and biologic forms<sup>4</sup>. Awareness and recognition of these manifestations are of the highest importance for facilitating early diagnosis and treatment<sup>5</sup>. Skin rashes in chronic HBV are more likely to have palpable purpura, which histologically is a neutrophilic necrotizing vasculitis involving small vessels<sup>6</sup>. Vasculitis is becoming more common worldwide, but there is no effective therapeutic management<sup>7</sup>. Currently, control of the viral infection is mainly based on the use of antiviral drugs (with the current availability of potent agents)<sup>4</sup>, plasma exchange and immunosuppressive therapy<sup>8</sup> whereas Novak et al suggests the combination of glucocorticoids and immune suppressive drugs<sup>9</sup>. Bleeding disorders can be correlated with the clinical entity raktapitta (bleeding disorder) described in Ayurveda<sup>10</sup>. Pitta (Biofire) gets vitiated and further vitiates rakta (blood) because of ushatva (hotness), resulting in exudation from the dhatus<sup>11</sup>. This leads to expansion of the volume of blood and its expulsion

through various parts of the body leading to the cutaneous and subcutaneous manifestation. This cutaneous manifestation can be correlated to purpura.

#### Case history

A 48 year old, non-diabetic and non-hypertensive married female presented to the outpatient department, with complaints of acute tender purpura on the upper and lower extremities associated with the burning sensation, itching, myalgia, fever, fatigue, night sweats, loss of appetite and generalized weakness since 1 week. There was no history of systemic manifestations like hematemesis, melena or menorrhagia. There were no signs of organomegaly, ascites, or venous prominence.

#### On physical examination

Body temperature - 101°F, Pulse- 94 per min, BP - 130/80 mm of Hg.

Per abdomen examination -Soft, no tenderness, no organomegaly, Ascitis or venous prominence. Multiple, tender, erythematous cutaneous purpura were observed on both the upper and lower extremities (Fig 1)

#### Timeline

Though there were no cutaneous or systemic manifestations in 2012, in 2014 she developed skin manifestation and was treated till the symptoms subsided significantly.

Month and Year	Events	Interventions
November 2012	Diagnosed as Hepatitis B surface antigen (HbsAg) positive during dental check-up.	
February 2014	Extra hepatic manifestations of Hepatitis B	Approached Regional Ayurveda Research Institute for Metabolic Disorders OPD
25 <sup>th</sup> February 2014	Diagnosed as Tiryakgata Raktapitta	Ayurvedic interventions commenced.
16 <sup>th</sup> May 2014	Routine hematological investigations done	Though ESR remains same, Extra hepatic manifestations like purpura and other clinical symptoms like fever, myalgia, general debility subsided
27 <sup>th</sup> August 2014	Liver function tests and HBsAg were done.	No change in HBsAg .LFT was in normal limits
August 2014- November 2016	Patient was on close observation and follow up	No remission of symptoms nor any progression towards systemic manifestations were observed.
29 <sup>th</sup> November 2016	Safety profile, RFT, LFT and hematological tests were done.	Safety profiles are normal and ESR reduced to 81mm/hr.

### Diagnosis

The condition was diagnosed as Tiryakgata Raktapitta, based on the symptomatology, dominance of Pitta dosha and rakta as dushya. Visarpa was considered for differential diagnosis, as the patient had burning sensation, reddish discoloration of the skin with acute manifestation. Visarpa (Herpes) was ruled out as the patient had purpuric lesions.

This was a confirmed case of positive HbsAg with elevated ESR (100 mm /h), anemia (Haemoglobin 8gm/dl) associated with cutaneous manifestations. So, the condition was diagnosed as cutaneous vasculitis (extra hepatic manifestation) of Hepatitis B. Systemic manifestation was ruled out as the liver function test and renal function test were in normal limits.

### Treatment

Informed consent was taken prior to the initiation of the treatment and for procuring photographs (Only upper extremities were

photographed). The treatment was planned based on the involvement of dosha dushya and also the considering hepatitis B infection. She was recommended herbo-mineral formulations and was treated from February 2014 for three months initially. Phyllanthus niruri was administered initially for 3 months and then continued after a gap of 15 days every three months.

1. Arogyavardhini vati: 500 mg 1tab twice daily after food with water.
2. Sootashekhara rasa 125mg 1tab twice daily before food with water.
3. Jatyadi taila for external application at bed time and after bath.
4. Extract of Phyllanthus niruri, 1000 mg, 1tab twice daily before food with warm water

The herbo-mineral formulations (1-3) were procured from IMPCL (Indian Medicines Pharmaceutical Corporation Ltd). Fourth formulation was procured from private pharmaceutical company.

### RESULTS



Figure 1 A: Before treatment



Figure 1 B: After treatment

Figure 1: Significant reduction in skin manifestations before and after treatment.

Table 1: Lab reports before and after treatment

Lab tests	Before treatment	After treatment
Urea	16mg/dl	17mg/dl
Creatinine	0.9 mg/dl	0.6mg/dl
Hb	8 g /dl	9.5 g /dl
HbsAg	Positive	Positive

Liver Function test, Clotting time, and bleeding time were within normal limits before and after the study. Serum Urea which was 16mg/dl remained at 17mg/dl after the treatment period. Creatinine was 0.9 mg/dl decreased to 0.6mg/dl. Hemoglobin was 8g/dl and increased to 9.5g/dl after the treatment period.

#### Follow-up

The patient has been regularly visiting OPD once in 15 days. Routine hematological investigations, LFT, HbsAg have been done during the treatment and follow up. The patient is closely monitored for the systemic manifestations.

#### DISCUSSION

Hepatitis B (HBV) and C (HCV) viruses are well known causes for chronic hepatitis, cirrhosis and hepatocellular carcinoma as well as spectrum of extrahepatic manifestations<sup>3</sup>. Extra hepatic features of chronic hepatitis B reflect immune complex phenomena such as vasculitis, immune complex nephritis, arthritis, a serum-sickness-like illness, and polyarteritis nodosa<sup>12</sup>. These features have the similitude with the manifestation of Tiryakgata raktapitta (Bleeding disorders) mentioned in Ayurveda. Spectrum of bleeding disorders can be correlated with raktapitta. Raktapitta based on the gati (movement), is classified as urdhwaga, adhoga and tiryakgata raktapitta. The disorders arising from the vitiation of pitta by gross dietary indiscretion leads to vitiation of Pittadosha (mainly Ushna, Drava and Sara guna) <sup>10</sup>. Vitiating Pitta mixes with Raktadhatu resulting in raktadushti. Raktadushti along with the increase in ushnaguna of pitta increases drava quantity (increased volume) of rakta, exerting pressure on raktavahini leading to break down of capillaries causing purpura. Treatment for tiryakgataraktapitta comprises of administration of slow acting therapies in small dosage, continuously for longer periods<sup>13</sup>.

Current treatment policy includes high-dose corticosteroids, which are combined with immunosuppressive agents when critical organ involvement or life-threatening complications occur. Cyclophosphamide in the remission induction phase, later switched to a safer immunosuppressant for remission maintenance is a frequently used therapeutic approach <sup>14</sup>. Combination therapy with two antiviral agents with high dose of immunosuppressive drugs until the disease resolves significantly <sup>15</sup>.

Shodhana (Purification) therapies like Vamana (Emesis) and Virechana (Purgation) are contraindicated in Tiryakgata Raktapitta.

Hence, the management through shaman aushadhis (Palliative medicine) was advocated. In this case, the line of treatment was based on clinical signs and symptoms of tiryakgata raktapitta and Hepatitis B which was the root cause for cutaneous manifestation. Arogyavardhini rasa and *Phyllanthus niruri* extract were selected for the management of the disease as well as preventing the systemic manifestations. Sootashekhara rasa was administered by considering its pittahara properties.

As Raktapitta is considered as mahagadam (fierce disease) having mahavegam (quick spread) agnivat sheeghrakari vyadhi, Shonita sthaapana is ideal measure in this condition<sup>16</sup>. Arogyavardhini vati was prescribed considering the moolasthana of rakta (Seat of the disease) in this condition<sup>20</sup>. Chronic carriers of the Hepatitis B virus (HBV) are at high risk of eventually developing post-hepatitis cirrhosis and primary hepatocellular carcinoma. To achieve the prevention of developing this process, drug that would affect the virus or its entry into liver cells is needed. The aqueous extract of *P. niruri* inhibits HBV DNAp and interferes with the binding of anti-HBs to HBsAg apparently because of its

ability to bind the surface antigen. In this context, the extract of *Phyllanthus niruri* <sup>17</sup>, a well-known antiviral, hepatoprotective drug is chosen for long term administration. As per the reports by Chatterjee et al. 2006, hepatoprotective effect of *Phyllanthus niruri* is probably through its antioxidant properties<sup>18</sup>. *P. niruri* is believed to exert this effect by normalizing the impaired membrane function activity of the liver<sup>19</sup>. It is opined that normalization process might also be associated with the high tendency of the liver tissue to rejuvenate after it has been injured or damaged. As per the study by Dange et al., it has been reported that, Arogyavardhini vati showed a less marked rise in the liver enzymes and subdued histopathological picture with less severity of degenerative and necrotic tissue<sup>20</sup>. It is also considered to be safe even for long term treatment<sup>21</sup>. Sootashekhara rasa was advised as lakshanika chikitsa (symptomatic treatment) as well as for its pittahara properties. It is used in the treatment of dyspepsia, gastritis, and vomiting, abdominal pain. Jatyadi Taila (JT) is a medicated oil formulation popularly used in the treatment of various topical wounds. It is known for its wound healing properties as well as to prevent secondary infection. Interestingly, the topical application of JT on excision wounds has shown significantly faster reduction in wound area by increasing the protein, hydroxyproline and hexosamine content in the granulation tissue when compared with the untreated controls <sup>22</sup>.

Dietary history of the patient revealed the consumption of non-vegetarian diet (2-3 times in a week). Hence, it was advised to avoid spicy food and non-vegetarian food during the treatment and follow up. She was strictly advised to take more of bland diet like pongal, khichdi, gruel etc.

In this case, the bleeding manifestation in the skin was subsided with no fresh purpura and scar, even when there was no significant change in biochemical parameters, which reflects the correction of functional abnormality. However, the patient is closely monitored for the systemic manifestations. The patient's condition has not progressed to systemic manifestation nor has there been any relapse since then.

#### CONCLUSION

In the present case report, an attempt has been made to report the management of extra hepatic manifestation of hepatitis B through Ayurvedic treatment principles. In the wake of increased awareness about traditional medicines, this case report substantiates that Ayurvedic medicines have been used effectively. This case report indicates that the Ayurvedic medicines can play a major role in the management of HbsAg associated extra-hepatic manifestations (Cutaneous vasculitis). Such rare documentations may be further utilized for research and planning the treatment protocol.

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