



A CASE STUDY OF VASADI KWATH AN AYURVEDIC FORMULATION IN HEPATITIS B W.S.R. TO ANTI-VIRAL EFFECT

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ABSTRACT

Inflammation of liver and liver dysfunction is a major global health problem; Hepatitis B is one of them. The available treatment modalities are not up to the mark in contemporary science. Hence, now day's healthcare professionals, researchers and pharmaceutical industries are inclined towards other resources for care and cure of liver related ailments. In this emerging scenario, herbal medicinal plants are the main resource of hepato-protective drugs since centuries. These Herbal drugs have become increasingly popular in present era and their uses are wide-spread. Recent evidences also suggest that Neo-formulation such as Nirocil and Liv-52 HB are developed from Green pharmacy and found effective in the management of symptoms related with Hepatitis B as well as down regulation of viral load in the serum. Seeing this fact and published reports; an Ayurvedic formulation Vasadi kwath is subjected to a patient having increased level of viral load along with presence of constitutional symptoms. Vasadikwath is an important formulation which has been mentioned in the context of Pandu (Anemia) and Kamala (Jaundice), in Bhaishajya Ratnawali. In this article; author has tried to explore the management of Hepatitis Bw.s.r. to viral load.

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INTRODUCTION

Hepatitis B is one of the chief culprits of liver related morbidity and mortality. HBV belongs to the family Hepadna Viruses. It is predominantly transmitted by Parenteral route, through contaminated blood of cuts, wounds, sharing of needles, intimate personal contact of an infected person, sexual and perinatally. In India percutaneous and sexual routes constitutes a major route of transmission. The incubation period of Hepatitis B ranges from 30 to 180 days (mean 8-12 weeks). The clinical symptoms, such as anorexia, nausea and vomiting, fatigue, malaise, arthralgias, myalgias, headache, photophobia, pharyngitis, cough, and coryza are observed during the course of illness. It may precede the onset of jaundice by 1-2 weeks. Detection of HBsAg, HBeAg and HBVirus DNA in serum confirms the diagnosis of Hepatitis B and these markers are indicator of HBV replication. Among patients with chronic hepatitis B, high levels of HBV DNA increase the risk of cirrhosis, hepatic decompensation, and hepatocellular carcinoma. U.S. Food and Drug Administration (FDA) have approved Interferon and Nucleoside analogues for the treatment of hepatitis B. These drugs can reduce the activity of Chronic HBV, but the side effects and cost of the drugs remain a concern to the physicians and patients with

regard to its clinical use.^[1] In recent year Ayurved again momentum in Western world due to failure of modern medicine and developing interest of scientific community towards the search of effective remedial measures from alternative resources for the management of ailments. Many Ayurvedic drugs have undergone extensive clinical and experimental research trials among which Katuki, Guduchi, Bhumya-amalaki, Nimba are some of them indexed as Hepato-protective, Hepato-regenerative, Immuno-modulant and Chologogues agents.^[2] VasadiKwath, which contains 5 drugs i.e. Vasa, Amrita, Nimba, Kirattikta and Katuki; it is mentioned in BhaishajyaRatnawali in the context of management of Kamala (Jaundice). This kwath is taken with honey for the treatment of Kamala, Pandu, Raktapitta and Halimaka.^[3]

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AA(BhaishajyaRatnawali 12/23)**

Contents of VasadiKwath are having properties like Pittahara, Pitta Rechana, Yakriduttejaka, Dipana-pachana, Kamala-hara, Pandu-hara properties etc.^[4-10]

Case Report

A male patient of age 26 years presented with chief complaints of reduced appetite, generalized weakness, incomplete bowel evacuation and yellowish discoloration of urine since 7 days.

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According to patient he was asymptomatic before 7 days. Gradually he developed these complaints. So, he came to Sir SundarLal Hospital, Banaras Hindu University, Varanasi for his management.

Past history was not significant.

There was no history of DM, HTN, TB, Malaria etc.

Drug history was also not significant.

There was no any history of drug allergy.

Clinical Examination

DashvidhaRogiPariksha (Tenfold examination of diseased one)

1. Prakriti: Kapha- Pittaja
2. Vikriti:
 - a. Hetu: Pitta vardhakaharavihara
 - b. Dosha: Kapha, Pitta Pradhan
 - c. Dushya: Rasa
 - d. Prakriti: Sukhasadhya
 - e. Desha: i. BhumiSaadhaaran
ii. Rogi: Yakrit
 - f. Kaal: Visarga Kala and Vyaktaawastha
 - g. Bala: Madhyama
3. Saaratah: Madhyam
4. Samhanan: Madhyam
5. Pramaantah: Sama
6. Satmyatah: Sarva rasa satmya
7. Sattwatah: Madhyam
8. Aahaarshakti:
 - i. Abhyaharan- Avara
 - ii. Jaran- Avara
9. Vyayamshakti: Madhyam
10. Vaya: (26 years)

AstavidhPariksha

1. Naadi: 84 /min, pitta-kaphaja
2. Mutra: Vaikritvarna
3. Mala: Vaikrit
4. Jihwa: Niraama
5. Shabda: Prakrit
6. Sparsha: Samshitoshna
7. Drik: Prakrit
8. Aakriti: Prakrit

Samprapti Ghatak

- Dosha: Tridosha specially Pittapradhana
- Dushya: Rasa
- Mala: Mutra
- Srotas: Anna, Rasa, Mutra, Purish
- Srotodushti: Atipravritti, Sanga,
- Aam: Sama
- Agni: Mandagni
- Adhishthan: Koshtha specially liver
- Vyaktasthan: SarvaSharira,

General Physical Examination

BP: 124/80 mmHg

Pallor: Absent

PR: 84 beats/min

Icterus: Absent

RR: 18/min

Cynosis: Absent

Temperature: Afebrile

Clubbing: Absent

General condition: Averag

Lymph node: Not palpable

Weight: 80 kg

Oedema: Absent

Decubitus: Sitting

Systemic Examination of Gastro-Intestinal Tract

Inspection

- Shape: normal shape, no distension
- Umbilicus: centrally placed
- Skin: no any scar marks/no any discoloration
- Visible movements with respiration: normal
- Pulsations: absent
- Any kind of visible veins/mass/peristalsis: absent
- Any signs of Hernia: absent

Palpation

- Abdomen soft with non-tender
- No any guarding and rigidity appreciated.
- No any palpable organomegaly appreciated

Percussion

- Shifting dullness – absent
- Fluid thrill – absent

Auscultation

- Bowel sounds- 1sound/ min

Investigations (Before Treatment Advised)

Complete Blood Count (CBC) 10/5/2016

- Hb % 15.3gm%
- TLC 8220 cells/mm³
- DLC N47.1 L38.7 E26.6 M7.4 B0
- Platelet 179000/mm³
- Hematocrit 45.9%

Renal Function Test (RFT) (10/5/2016)

- UREA 22.6 mg/dl
- CREAT 1.1 mg/dl
- Na⁺/K⁺/Cl⁻ 140.1/3.94/109.1 mmol/l

Viral Hepatitis Profile (10/5/2016)

- HBsAg Positive
- Anti HCV negative
- Anti HAV IgM negative
- Anti HEV IgM negative
- HBV DNA 2300 IU/ML
- HBeAg Negative

Diagnosis-Hepatitis B

Treatment-Patient was treated with VasadiKwath 40 ml twice a day with honey for 3 month.

Observation

Patient was observed for 3 consecutive follow up. The duration of follow ups was of 1 month. After each follow up LFT was

advised and reports were observed and at the end of 3rd follow up HBV DNA test were advised and viral load was observed.

RESULTS

The symptoms were gradually relieved during each follow up. There were no any other complaints after 3 month. The blood investigations like CBC, RFT and LFT reports were normal before and after treatment. No any adverse reaction or side effects were recorded in any follow up. The HBV DNA titre load was significantly reduced up to less than 20 IU/ML after 3 month of treatment with Vasadikwath. HBsAg was negative before and after the treatment.

Hematological Investigations after 3 months of Treatment

Complete Blood Count (CBC) (11/8/2016)

- Hb% 16.9gm %
- TLC 8870 cells/mm³
- DLC N54.5 L35.3 M4.5 E5.4
- PLT 264000 cells/mm³
- Hematocrit 50%

Table 1 Liver Function Test (LFT) (Before Treatment and different follow ups)

LFT	BT (10/5/16)	FU 1 (10/6/16)	FU 2 (10/7/16)	FU3 (11/8/16)
Sr. Bil. mg/dl	0.87	0.57	0.43	0.62
D. Bil. mg/dl	0.33	0.23	0.16	0.26
Ind. Bil. mg/dl	0.54	0.34	0.27	0.36
Protein gm/dl	7.4	8.07	6.8	7.86
Albumin gm/dl	4.4	4.94	4.32	4.58
ALT IU/ML	41.7	36.7	27.8	41.4
AST IU/ML	43.9	37.7	25.8	32.1
ALP IU/ML	65	67	48	59

Renal Function Test (RFT) (11/8/2016)

- UREA 21.3 mg/dl
- CREAT 1.04 mg/dl
- Na⁺/K⁺/Cl⁻ 146/4.02/110.2mmol/l

HBV DNA: BT (10/5/16): 2300 IU/ML AT(11/8/16) :<20 IU/ML

HBsAg Negative

DISCUSSION

The chosen Ayurvedic drug (Vasadikwath) to be called as 'hepato-protective' have shown significantly improvement in clinical symptoms in three successive follow ups and significantly reduce HBV DNA load as well as exerts beneficial effect on reduction of liver function parameters. Besides, this drug improves the platelet count and does alter the renal function parameters. The properties of individual drugs are summarized as below.

Vasa (Adhatodavastica)- It is a well-known drug in Ayurvedic and Unani medicine. It has been used for the treatment of various diseases and disorders. Many studies have been conducted on *Adhatodavastica* and some of the reported activities of the plant include anti-asthmatic and bronchodilator activity,^[11] wound healing activity,^[12] cholagogue activity,^[13] anti-tubercular activity,^[14] and abortifacient and uterotonic activity etc.^[15]

Amrita (Guduchi) (Tinosporacardifolia)-*Tinosporacardifolia* has been studied for its actions like immunomodulatory,^[16] antioxidant property,^[17] antibacterial property,^[18] hepatoprotective,^[19] hypoglycaemic and hypolipidemic action.^[20]

Nimba (Azadirachtaindica)-commonly known as Neem, has attracted worldwide prominence in recent years, owing to its wide range of medicinal properties. Neem elaborates a vast array of biologically active compounds that are chemically diverse and structurally complex.^[21] Neem leaf and its constituents have been demonstrated to exhibit anti-inflammatory activity,^[22] antimalarial activity,^[23] immunostimulant activity,^[24] hepato-protective activity,^[25] and antioxidant activity etc.^[26]

Kiratiktika (Swertiachirayita)-Kiratiktika is a very famous Ayurvedic herb for various human ailments. It is used mainly in the treatment of infectious and inflammatory conditions^[27] and also used as anticarcinogenic activity,^[28] hepatoprotective effect,^[29] anti-helminthic activity,^[30] antiviral activity,^[31] antihepatotoxic activity^[32, 33] and antioxidant property.^[34]

Katuki (Picrorhizakurroa)- It has been mentioned as an important drug in ancient Ayurvedic literature. The plant has been described as very useful in jaundice, nausea anorexia, dyspepsia and periodic fevers. Katuki has property like anticholestatic effect,^[35] anti-allergic and anti-anaphylactic activity,^[36] antioxidant activity^[37] and hepato-protective property.^[38-39]

CONCLUSION

The drug Vasadikwath in its decoction form is found useful in ameliorating the clinical features of patient having problem of HBV infection along with significant reduction of HBV DNA. Although the SGOT & SGPT are not much rise before the treatment but at the end of follow up, it shows reduction towards lower level. Thus, by seeing these observations we finally conclude that Vasadikwath surely have anti-viral role specially HBV along with role in hepato-protection by restoring the elevated level of liver enzyme and improving platelet count. On the basis of drug contents it is presumed that it may exert adaptogenic and immunomodulatory effect and interfere in the breaking of diathesis of Hepatitis B. The used drug is completely safe, cost effective and devoid of any side effects. Thus, this case study provides a new outlook and lead for further research in cases of Hepatitis B on larger sample size.

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