



HEPATO PROTECTIVE ACTIVITY OF HEPASHREY SYRUP

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Abstract: Liver is known as a vital organ and play a crucial role in the metabolism and it is causes it to succumb to numerous hepatic diseases. Synthetic drugs exploited in the treatment of liver diseases are incompetent and may sometimes lead to serious side-effects. In this context, herbal therapy has emerged as a proficient approach with good values in treating hepatic diseases. Medicinal plants may serve as a vital source of potentially useful new compounds for the development of effective therapy to combat a variety of liver problems. Many herbs have been proven to be effectual as hepato protective agents while many more are claimed to be hepato protective but lack any such scientific evidence to support such claims. Developing a satisfactory herbal therapy to treat severe liver diseases requires systematic investigation of properties such as antiviral action (Hepatitis B, Hepatitis C), anti-hepatotoxicity (antioxidants), stimulation of liver regeneration and choleric activity. Formulation of herbal medicines with standards of safety and efficacy can revitalize treatment of liver disorders. In the present study, the efficacy of polyherbal herbal formulation Hepashrey Syrup has been studied in human with history of liver disorders twice daily dosage for a period of one month at OPD of JSS Ayurveda Medical College, Mysore. The initial results are reported with encouraging results on liver. We conclude that Hepashrey syrup possess hepato protective effect in patients. This protective effect of Hepashrey syrup can be attributed to the anti-inflammatory, anti-oxidative, and hepato protective properties of the component herbs.

Keywords: Liver disease, Hepato protective, Herbs, Hepashrey

INTRODUCTION

Indian medicinal plants have been recognized and are extremely valued all over the world as a prosperous source of bio-actives for the prevention and treatment of various ailments. Herbal medicines are being used globally of the world population primarily in the developing countries for primary health care. They have stood the test of time for their safety, efficacy, cultural acceptability and minimal side effects. Ancient literatures also mention herbal therapy for age related diseases namely memory loss, osteoporosis, diabetic wounds, immune and liver disorders, etc. for which no modern medicine or only palliative therapy is yet available. The herbal drug products are prepared from renewable resources of raw materials by eco-friendly processes and will bring economic prosperity to the masses growing these raw materials^[1] World Health Organization (WHO) defined traditional medicine (including herbal drugs) as therapeutic practices that have been in existence, often for hundreds of years, before the development and spread of modern medicine and are still in use today. These practices incorporated ancient beliefs and were passed on from one generation to another by oral tradition and/or guarded literature.) In fact, the nature has bestowed some plants with the property to prevent, treat and cure hepatic disturbances with interception of fewer side effects. Hepato protective are a class of therapeutic agents that includes synthetic as well as

natural product which offer protection to liver from damage or help in regeneration of hepatic cells. Medicinal herbs are significant source of hepato protective drugs. It has been reported that about 170 phyto-constituents isolated from 110 plants belonging to 55 families do possess hepato protective activity. Liver protective herbal drugs contain a variety of chemical constituents like phenols, coumarins, curcuminoids, lignans, essential oils and terpenoids. Clinical research has also shown that herbals have genuine utility in the treatment of liver diseases. Only a small portion of hepato protective plants as well as formulations used in traditional medicine are pharmacologically evaluated for its efficacy. Many patients with liver disease use these herbal preparations without the advice or even knowledge of their caring physician. The effectiveness of some of these herbal medicines has been recently investigated. Silymarin, a natural product isolated from the seed extract of *Silybum marianum* has been investigated clinically and found useful in the treatment of liver disease. Hepashrey syrup whose composition is shown in Table-I has been proved safe during the preclinical study. The ingredients that are present in Hepashrey Syrup have been well known for their liver protective and anti-hepatotoxic activities. The ingredients are known to improve the digestive function that in return also improves the gastric function and provides a

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beneficial activity.

Table.I: Composition of Hepasrey Syrup

Official name	Name of the ingredients	Part used	Quantity
Bhringaraja	<i>Eclipta alba</i>	Aerial	100 mg
Bhumyalaki	<i>Phyllanthus niruri</i>	Aerial	100 mg
Amlaparni	<i>Rheum emdoi</i>	Root	100 mg
Sarapunkha	<i>Tephrosia purpurea</i>	Whole	60 mg
Kasni	<i>Cichorium intybus</i>	Seed	60 mg
Guduchi	<i>Tinospora cordifolia</i>	Stem	24 mg
Haritaki	<i>Terminalia chebula</i>	Pericarp	24 mg
Punarnava	<i>Boerhavia diffusa</i>	Root	20 mg
Kalamegha	<i>Andrographis paniculata</i>	Aerial	20 mg
Kutaki	<i>Picrorrhiza kurroa</i>	Root	20 Mg

MATERIALS AND METHODS

For conducting this interventional study, 09 patients of both sexes were selected based on their complaints of hepatic disorders based on the inclusion criteria referred by contemporary physicians at OPD of JSS Ayurveda Medical College, Mysore. All the patients who were older than 12 years, with continuing medication of Anti-tubercular (ATT), Statins, and other hepatotoxic known agents, idiopathic loss of appetite, and history of jaundice were included in the study, which is as per the inclusion criteria. The patients with severe hepatic dysfunction, cancer patients, suffering from mental challenging persons, with history of pregnancy and lactation and above 90 years of age have been excluded from the study. None of the patient has been reported with alcohol use. The patients were admitted by investigators and informed about the rationale and main aims of the study. A written informed consent was obtained from each patient in presence of member of the ethics committee. The protocol of this study was approved by the ethics committee of JSS Ayurveda Medical College, Mysore. The patients were administered with a dose of 2 ½ teaspoonful's twice daily after food with water for a period of 30 days. Hepashrey syrup was given by Shrey herbal. The placebo syrup was with same color and consistency as of Hepashrey Syrup. Each 5 ml Hepashrey syrup contains extracts of *Eclipta alba* 100 mg, *Phyllanthus niruri* 100 mg, *Rheum emdoi* 100 mg, *Tephrosia purpurea* 60 mg, *Cichorium intybus* 60 mg, *Tinospora cordifolia* 24 mg, *Terminalia chebula* 24 mg, *Boerhavia diffusa* 20 mg, *Andrographis paniculata* 20 mg, *Picrorrhiza kurroa* 20 mg. The diagnosis of liver disorders was confirmed by the biochemical, and clinical findings as well as abdominal examination. The patients visited after one month and the clinical parameters such serum alanine aminotransferase (ALT), aspartate aminotransferase (AST), total bilirubin, total protein and albumin, were determined using standard reagent kits. The blood samples were drawn after an overnight fast and were analyzed immediately. The data at the beginning of the study and after one month was selected for the statistical analysis. All the patients underwent clinical examination according to a

prepared check list. Based on the clinical examination and as per the inclusion and exclusion criteria, the patients have been selected and enrolled for the study. Later liver profile has been examined both prior to selection and completion of the trial as well. The liver parameters are selected on the requirement based on the commonest factor. The patients and the staff who carried out assessment of clinical and practical parameters were unaware of treatment groups and type of medication.

RESULTS

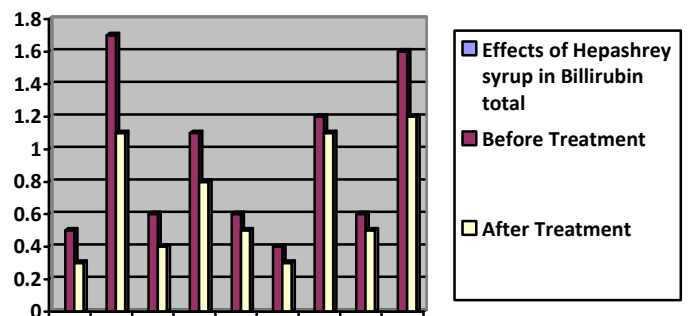
All the 9 patients completed the study and there were no dropouts.

Serum analysis:

The average serum values before and after one month of Hepashrey are summarized in below tables.

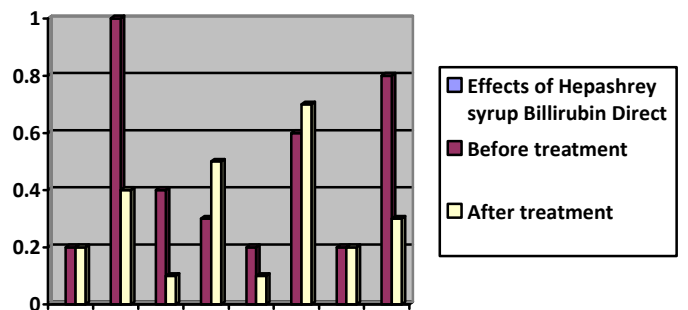
Effect of Hepashrey in serum total:

Hepashrey syrup administration has improved the serum bilirubin in a considerable way. The mean score has come down from 0.866 mg/dL to 0.744 mg/dL after one month of treatment.



Effect of Hepashrey in serum bilirubin:

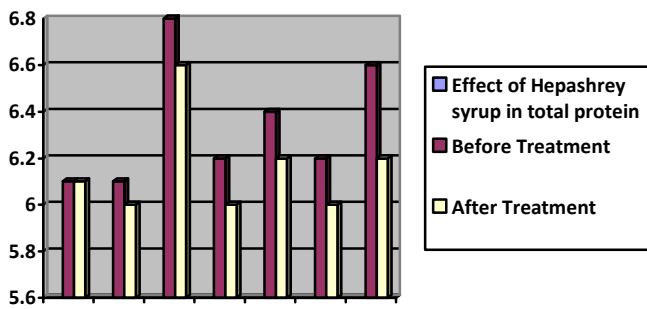
Hepashrey syrup administration has improved the serum bilirubin (direct) in a substantial way. The mean score has come down from 0.422 mg/dL to 0.311 mg/dL after one month of treatment.



Effect of Hepashrey in serum total protein:

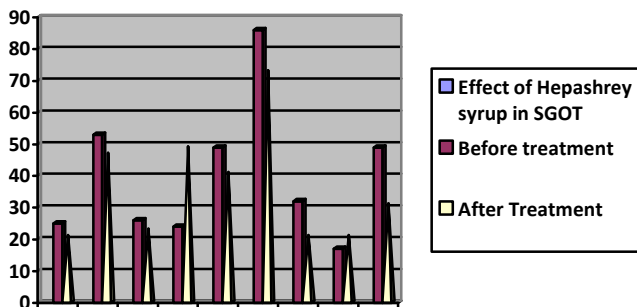
Hepashrey syrup administration the mean score has improved the serum total protein in a considerable

way. The mean score has come down from 6.285 mg/dl to 6.187 mg/dl after one month of treatment.



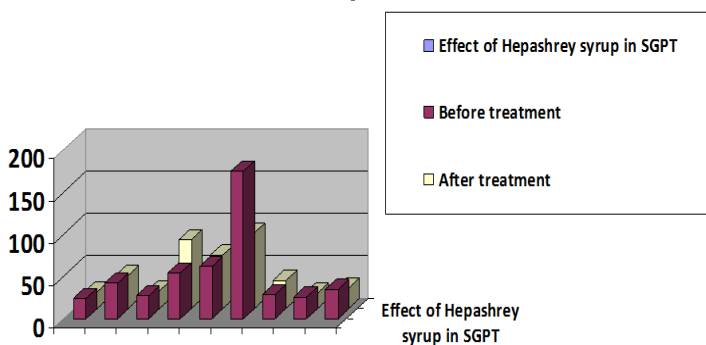
Effect of Hepashrey in serum glutamic oxaloacetic transaminase (SGOT):

Hepashrey syrup administration has improved the serum glutamic oxaloacetic transaminase (SGOT) or known as Asperate tranminase (AST) in a significant way. The main score has come down from 40.111 IU/L to 36.333.



Effect of Hepashrey in serum glutamic pyruvic transaminase (SGPT):

Hepashrey syrup administration has improved the serum glutamic pyruvic transaminase (SGPT), or also known as Alanine transaminase (ALT) in a significant way. The mean score has come down from 51.555 IU/L to 42.888 IU/L after one month of treatment.



tissue. The damage eventually becomes extensive and normal structure of the liver is distorted and its function becomes impaired. This abnormality affects almost every physiologic process including digestion, endocrine, circulatory and other metabolic functions. These changes themselves slowly aggravate liver damage.

The hepatitis-B virus (HBV) affects an estimated 350 million people around the world and hepatitis-C (HCV) affects an estimated 170 million. Many of those infected develop persistent disease and a proportion goes on to develop liver failure and cancer. About 5% of adults (about 95% of neonates) infected acutely with HBV will go on to develop chronic infection with high levels of HBV DNA and surface antigen. These patients are divided into those who have positive HBe antigen (HBe antigen) and those who have HBeAg negative antigen. A proportion of HBeAg negative individuals have high loads of circulating DNA with precore or core promoter mutants form of virus. Liver Biopsy remains the gold standard in identification of patients with chronic hepatitis who may benefit from treatment. Although high ALT levels are associated with liver damage, patients with normal range may also have significant abnormal liver biopsy. The aim of the medication in liver impaired patients is to prevent metabolic abnormalities and the progression of the liver cell damage. The traditional healers approach to management of the chronic liver disease is to regulate and strengthen the liver, gastrointestinal and immune. The regulation of gastrointestinal system may improve the general wellbeing of the patients as well as improvement of the constipation may prevent the absorption of harmful substances and indirectly decrease ascites. The protection of liver cells against toxic materials including drugs, lipid peroxidation and free radical injury may decrease inflammation, improve liver blood flow and ultimately help in reduction of ascites and blood pres. Immune dysfunction is component of liver disease and thus immunomodulation by herbal therapy prevent oxidative stress, inflammation and strengthens the detoxifying power of liver cell . All these effects strengthen liver and regulate body metabolism and ultimately inhibit further liver cell damage in the favor of their regeneration. In present study, the efficacy of herbal medicine Hepaspray syrup on liver disorders with hepatitis was investigated. Across in all patients treated with Hepaspray for a month, various standards of liver panels that include the serum ALT and AST levels were significantly decreased. This decrease in serum ALT and AST levels in Hepashrey syrup treated patients in part may be due to the protective effect of this drug on liver cells following restoration of liver cell membrane permeability. This protective effect indicates reduction in crude extracts on free radical-mediated DNA damage increase the hepato protective

DISCUSSION AND CONCLUSION

Liver is known as vital organ of the body and has been vulnerable for various exposures to contaminants resulting in poor liver functions. Even if at some times, the impact is strong that, hepatocyte's become damaged and even lead for proliferation of the fibrous

effect of Hepashrey syrup. A significant reduction in levels of SGOT, SGPT, ALP and bilirubin were observed following *Tinospora cordifolia* treatment during CCl₄ intoxication in mature rats. The plant extract showed in vitro inactivating activity in Hepatitis- B surface antigen. The activity may be due to antioxidant activity of the medicinal herb. In addition to the above, anti-hepatotoxic and antiviral activities bitters present in *Phyllanthus niruri* have been proved to be one of the beneficial activities in managing hepato protective activity. *Eclipta alba* which is well known for its hepato protective activity since time immemorial also add up a synergistic activity of the vital ingredients making the product as a suitable hepato protective product. *Cichorium intybus* has been proved for hepato protective activity due to cholagogue and hepato protective activity. It has been reported to improve the digestive activity. *Terminalia chebula* has been used since time immemorial for its antibilious, and hepato splenomegaly, whereas *Andrographis paniculata* and *Picrorrhiza kurroa* are well known for their hepato protective activity.

We conclude that Hepashrey possess hepato protective effect in cirrhotic patients and this effect may be due to its diuretic, anti-inflammatory, anti-oxidative, immuno-modulating as well as restorative effects. All these activities directly or indirectly influence the cellular and body metabolism and play favorable and protective role in maintaining liver integrity and restoring its function. Hepashrey is thus beneficial in chronic patients.

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