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A REVIEW ON HERBAL LIVER TONIC

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ABSTRACT

Herbs are the gift of the nature and have a lot of uses, one of the best uses is to use them to make medicines which have no side effects. Utilization of herbs in making medicines is laid down in our ancient ayurveda sashatra. Allopathic treatment has some side effects. Therefore we have to use ayurvedic treatment by modernizing the method, that is by making of tablets, syrup etc. market growth of liver tonic is around 6%-10, it has been observed that the tonic produced from plant origin has taken substantial preference over the synthetic drugs and the new entrepreneur may enter this field with good pharmaceutical knowledge and quality product. Now a days people aware about side effects of synthetic drugs, so consumers also willing to use the herbal products. Herbal remedies are popular in the general population and even more so amount patients with liver diseases. The varied manifestations of liver injury include steatosis (excess fat builds up in the liver) acute and chronic hepatitis, hepatic fibrosis, acute liver failure. Herbal drug have become more popular and their use is highly. Licensing regulations and pharmacovigilance regarding herbal products are still in complete and well defined confirmation of their effectiveness in liver diseases. The herbs like bhuiamla used to treat chronic liver swelling, glycyrrhizin to treat chronic viral liver inflammation silibinin for anti fibrotic. (develop and abnormal amount of scar tissue).

KEYWORDS: Liver tonic, herbal medicine, liver function, hepatoprotective, herb.

INTRODUCTION

The liver plays a spectacular array of vital functions in the maintenance, performance and regulating homeostasis of the body. Liver is considered to be one of the most important organ

that functions as a centre of metabolism for nutrients such as carbohydrates, proteins and lipids and removal of waste metabolites. Additionally, it is also handling the metabolism the biochemical pathways to growth, fight against disease, nutrient supply, energy provision and reproduction and excretion of drugs and other xenobiotics from the body thereby providing protection against unwanted substances by detoxifying and eliminating them. old, mankind has made the use of plants in the treatment of various illness. The Indian Traditional Medicine like Ayurvedic, Siddha and Unani are largely based on the use of plant materials. Herbal drugs have obtain importance and popularity in recent years because of their safety, efficacy and cost effectuality. The union of medical plantswith other plants in their domain also impact their medicinal values in some cases. One of the important and genuine uses of plant-products is their use as hepatoprotective agents. Hence, there is an ever highly need for safe hepatoprotective agent. Liver is one of the important organ in human body. It produce bile juice that helps aid digestion. If there are too many toxins accumulated in your body, you may be experiencing symptoms like low energy, digestion problems, skin reactions compromised immunity, brain frog(a term people used to describe how they feel when they have problems with thinking and memory)physical pain as well as excessive sweating, bad breath. A liver tonic is a substance ability to prevent or reverse liver damage cause by toxins or drugs by reducing free radicals promoting hepatocyte regeneration and inhibiting fibrosis.

Fig 01: Liver.

Properties

- It should arrest chronic enlargement of the organ and acts as tonic.
- It should be effective in liver amoebiasis.
- It should be useful in anorexia indigestion and biliousness.
- It should be effective in dyspepsia.
- It should be effective in spleen enlargement.

- It should be effective in torpidity of liver.
- It should be effective in constipation, general debility and convale scence.
- It may be cure jaundice and help to stimulate bilese cretion.
- It should maintain normal liver functions.

LIVER

Liver is a large, spongy organ in the upper right abdomen. liver is located under the diaphragm and top of the stomach, right kidney and intestine normal size of the liver is less than 16cm –in males 14.5cm, in female 13.4cm. weight in mens 1.4 to 1.5 kg and womens 1.2 to 1.4kg.

Organization

Liver is a complex organ consist of lobules, lobes, ducts and ligaments.

- Lobes: The liver has 4 lobes:

1. Right lobe
2. Left lobe
3. Quadrate lobe
4. Caudate lobe

- Lobules: lobules are sub unit of lobes which are small hexagonal lobes.
- Ducts: lobules connects to small ducts. smallducts are connects to large ducts to form common duct.
- Ligaments: this sickle shaped fibrous structure that connects the anterior part of the liver to the ventral wall of the abdomen.

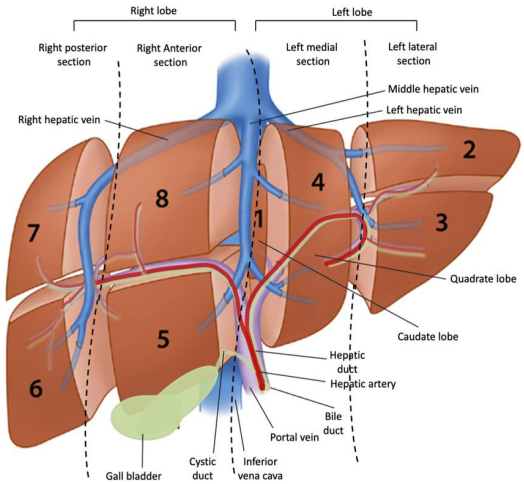

Fig 02: liver structure.

LIVER FUNCTION

- Digestion
- Blood purification
- Blood storage
- Blood clotting
- Protein production
- Cholesterol production
- Immune response
- Ammonia conversion
- Bilirubin clearance

Liver diseases

- Fatty liver Liver damage due to alchol
- Biliary disoeders(biliary atonia, hypoyonia)

Causes

- Fatty liver
- Obesity
- Diabetes
- Rare genetical disease
- High BP
- Some medications like-cnacer drugs
- Alchol abuse
- Rapid weight loss
- Toxins

Liver Damage

- Alcoholic hepatitis
- Alcoholic cirrohis

Hepatotoxicity

- Medications like apirin, ibuprofen, naproxen, azathioprine, phenytoin, niacin, ketoconazole, anabolic steroids.
- Herbs like kava, epherdra, cascara.
- Indusrtrial chemicals like carbon tetrachloride, vinyl choride, poly chlorinated biphenyls.

- Alchol

Biliary disorders

- Diabetes
- Crohns disease
- Biliary injury

Symptoms

- Jaundice
- Swelling
- Bruising(skin discolourization from damaged)
- Changes in stool and urine
- Itchy skin
- Loss sex drive
- Tiredness
- Vomiting
- Nausea
- Liver pain
- Loss of hepatite

Product ingredients

- Bhringraj-900mg
- Punarnava-900mg
- Giloy-800mg
- Bhumi amla-800mg
- Katumar-400mg
- Kasni-1000mg
- Harad-400mg
- Makoy-500mg
- Nagarmotha-500mg
- Viavidang-200mg
- Haubher-500mg
- Base sugar-q.s

Product description

1. Bhringraj: it act as detoxifying agent and helps to formation of new liver cell.

- **Scientific name:** Eclipta prostrata
- **Family:** Asteraceae
- **Genus:** Eclipta
- **Kingdom:** Plantae
- **Order:** Asterales

Fig no 3: bhringraj.

2**. Punarnava:** act as diuretic.

- **Scientific name: Boerhavia diffusa**
- **Family: Nyctaginaceae**
- **Genus: Boerhavia**
- **Kingdom: Plantae**
- **Order: Caryophyllale**

Fig no 4: punarnava.

3. **Giloy:** Act as an anti oxidant.

- Scientitficname: Tinospora cordifolia
- Family:menispermaceae
- Genus:tinospora
- Kingdom: plantae
- Order: ranunculales

Fig no 05: Giloy.

4. **Bhumi amla:** act as hepatoprotectent agent.
5. **Scientific name:** Phyllanthus niruri
6. **Family:** Phyllanthaceae
7. **Genus:** Phyllanthus
8. **Kingdom:** Plantae
9. **Order:** Malpighiales

Fig no 06: Bhumi Amla.

5. **Kasni:** treat liver function.

- **Scientificname:** Cichorium intybus

- **Family:** Asteraceae
- **Genus:** Cichorium
- **Kingdom:** Plantae
- **Order:** Asterales

Fig no 08: kasni.

6. **Harad:** digestion and detoxifying agent.

- **Scientific name:** Terminalia chebula
- **Family:** Combretaceae
- **Genus:** Terminalia
- **Kingdom:** Plantae
- **Order:** Myrtales

Fig no 9: Hardar.

7. **Makox:** improve liver health.

- **Scieitific name:** solanum nigrum
- **Family**:solanaceae

- **Genus:** solanum
- **Kingdom:** plantae
- **Order:**solanales

Fig no 10: makox.

8. **Nagarmotha:** treat liver dysfunction.

- **Scientific name:** Cyperus scariosus
- **Family:** Cyperaceae
- **Kingdom:** Plantae
- **Order:** Poales

Fig no 11: Nagarmoth.

9. **Viavidang:** hepatoprotectants.

- Scientific name: embelia ribes
- Family: primulaceae
- Genus:embelia
- Kingdom: plantae
- Order: ericales

Fig no 12: Vivadang.

- Base sugars: used as basing ingredients.

Methods of Preparation

Bhringraj, Punarnava, Giloy, Bhui amla powders take into beaker

↓

Mix well and infuse the above mixture with the hot water for hours (or) over night and strain the extract

↓

Katumar + kasni + Harad are mix well and infuse them and collect extract

↓

Makoy + Nagarmotha + Viavidang + Base sugar mix well and infuse

↓

Mix all of the above influsions and dilute (or) make up of limited level by using distilled water.

Evaluations

Evaluation is a process of qualitative study of a given sample

1. **Phytochemical Evaluation**:phytochemial evaluation of prepared extracts Examination of phytochemical properties such as pH, heavy metals and microbial contamination was done for the prepared extracts of three crude drug samples. of all the extracted solvents were estimated using digital pH meter that had been calibrated and stabilized with buffer tablets. Amount of all aerial part extracts of ethanol were blended in distilled water of 10 ml and stirred for 10 min using a magnetic stirrer.

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Sample digestion: Each powdered plant sample of about 1 gm was taken in 250 ml beaker previously contain 80 ml water. Boiled the mixture on hot plate till the volume concentrated to less than 1/4th of total volume (5-10 ml). Placed the mixture in 100 ml volumetric flask on cooling. Rinsed the beaker 3-4 times with distilled water. Transferred the rinse in the 100 ml flask and made the volume using distilled water to 100 ml. The solution of stated amount was pipette out from the above prepared solution and diluted with distilled water to 100 ml. The sample was used for the analysis of copper, zinc, iron and lead.

Heavy metal test: Copper – Weighed 286 mg of cupric acetate accurately; added to 1 ml concentrate hydrochloric acid and warmed on water bath. The analytical sample was prepared of concentration, 2.86 mg/ml in distilled water. The reading was taken by using copper lamp at 324.8 nm Iron – Weighed 864 mg of ferric ammonium sulphate accurately and added to 1 ml concentrated hydrochloric acid, warmed on water bath. The sample for analysis was of concentration of 8.64mg/ml. The reading was taken by using Fe-lamp at 248.3 nm. Lead – The sample of 1mg/ml solution was used to test for presence of lead in nitric acid solution. The reading was taken by using one AMP lamp at 405.8 nm. Zinc–For testing of presence of zinc in sample, theconcentration of sample used was 1mg/ml in hydrochloric acid in water. The reading was taken by using copper lamp at 213.9 nm.

Microbial Contamination: Standard methods were used to determine Microbial contamination Total viable count Each powdered sample (10 gm) was weighed accurately and dissolved in 100 ml of sterile nutrient broth, kept in incubator at 37°C for 24 hrs separately. After 24 hrs incubation if culture shows growth of organism, then serial dilution was done. 1 ml sample (plant material + nutrient broth) was added into 9 ml sterile saline. Similarly, dilutions were carried up to 1010 and 1 ml of 106 dilutions were pipetted into each of two sterile nutrient agars. Similarly, 107, 108, 109 and 110 dilutions were pipetted into duplicate plates. Samples were spread on nutrient agar by use of spreader in sterile condition. Plates were further incubated at 37°C for 5 days. Positive and negative control was run. The numbers of colonies were counted and the average for 3 plates was expressed in terms of microorganism per g of plant sample (colony forming units - cfu per gm of plant sample). Total Yeast and Mould count Each powdered sample (10 gm) was weighed accurately and dissolved in 100 ml of sterile nutrient broth kept in incubator at 37°C for 24 hrs separately. After 24 hrs incubation if culture shows growth of organism, then serial dilution was done.

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Procedure to determine viscosity: viscosity was measured with brook field viscometer at 100 rpm.

1] Completely cleanse the Ostwald viscometer with slightly hot chromic acid and if mandatory, used an organic solvent such as acetone.

2) Mount viscometer in vertical position on a suitable stand.

3) top up water in dry viscometer up to mark G.

4) add up time need, in second for water to run from mark A to mark B.

5) Recurrent step 3 at least 3 times to obtained exact reading.

6) wash out viscometer with test liquid and then add up it up to mark A, find out the time required for liquid to run to mark B.

Stability Study for Hepatoprotective Tonic: Stability testing of the prepared poly herbal formulation was performed on keeping the samples at accelerated temperature conditions. Three portions of the final formulation (A, B and C) were taken in amber coloured glass bottles and were kept at accelerated temperature at 4°C Room temperature and 47° respectively. The samples were tested for all the physicochemical parameters, turbidity and homogeneity at the interval of 24hr., 48hr. and 72hr. to observe any change.

Uses

- ✓ Liver tonic from herbal drugs is effective in different hepato billary dysfunction. It is for uses in all common liver troubles in all age group of patients.
- ✓ It can be used for sluggishness of liver.
- ✓ It can be used for anorexia.
- ✓ It can be used in jaundice.
- ✓ It can be used for fatty liver.
- ✓ It can be used for acute and chronic hepatitis.
- ✓ It can be used for recovery of liver damage due to alcohol hepatoxic drug, etc.

CONCLUSION

Herbal and dietary products are well received all over the world. People promote their health and make herbal and dietary supplements (HDS) become more and more popular around the world now a days, and also peoples aware and intrest to use herbal medicines, instead of

chemical or synthetic medicines. Hence herbal market growth is increased exponentially. Herbal liver tonics are helpful to improve health of liver and manage the function of liver with out causing any side effects. Various herbal ingredients are used in this formulation. They show very potent action to detoxify the liver. It has been observed that the liver tonic produced from plant origin has taken substantial preference over the synthetic drugs and the new entrepreneur may enter this field with good pharmaceutical knowledge and quality product.

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