



HEPATOPATHY AND ITS MANAGEMENT BY PHYTOCHEMICALS

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ABSTRACT: Liver is functionally an important organ in human's organ system. The regular functioning of liver is crucial to health and life. It does metabolism of lipid, carbohydrate and protein. In addition to secreting bile, which is needed for absorption of dietary fats, the liver performs many other vital functions, but the oral bioavailability of unchanged resveratrol is very low due to rapid and extensive metabolism. In hepatopathy prevention plays a great role, because treating liver with drug is again a crucial state as liver acts on these same drugs. Sometimes drugs may deteriorate the prognosis than an expected advantage.

KEYWORDS:- Hepatopathy, Free radicals

1. INTRODUCTION

The incidence of liver disorders is not less to neglect. They carry a good percentage in death rate per year. Studies have showed that some liver related diseases like Hepatitis B and Hepatitis C virus could flourish into an epidemic much larger in scale than the HIV. Injures to the liver cells resulting serious harm to the liver is an important health problem. It may due to many factors like virus, chemicals etc. The drugs are also chemicals which may worsen the condition instead of a giving a beneficial effects.

Liver is functionally an important organ in human's organ system. The regular functioning of liver is crucial to health and life. It does metabolism of lipid, carbohydrate and protein. It regulates the glucose level in blood, produces bile. It processes hormones and other chemicals. It detoxifies during this processing as in case of alcohol. When liver cleanses the blood which is toxicated by material which is taken orally or parentally, it harms itself. So administration of drug which does not harm liver is essential in any liver disorders.

In the days of Babylonia, the priest- physician would examine minutely the liver of sacrificial animals for signs of import from the Gods (divination). The liver was chosen because it contains the most of blood; since life and blood are synonymous, the liver was considered the seat of soul¹.

The liver can be called as several organs in one. It consists of complex circulatory system, biliary passages, a collection of reticuloendothelial cells of various types and the liver or polygonal parenchymal cells themselves.

2. FUNCTIONS OF LIVER

In addition to secreting bile, which is needed for absorption of dietary fats, the liver performs many other vital functions,

Carbohydrate metabolism: the liver is especially important in maintaining a normal blood glucose level. When blood glucose level is low, the liver can break down glycogen to glucose and release the glucose into the blood stream. The liver can also convert certain amino acids and lactic acid to galactose, into glucose. When blood glucose is high, as occurs just after eating a meal, the liver converts glucose to glycogen and triglycerides for storage.

Lipid metabolism: Hepatocytes store some triglycerides; break down fatty acids to generate ATP; synthesis lipoproteins, which transport fatty acids, triglycerides, and cholesterol to and from the body cells; synthesize cholesterol; and use cholesterol to make bile salts.

Protein metabolism: hepatocytes deaminate amino acids so that the amino acids can be used for ATP production or converted to carbohydrates or fats. The resulting toxic ammonia is then converted into the much less toxic urea, which is excreted in urine. Hepatocytes also synthesize most plasma

proteins, such as alpha, beta globulins, albumin, prothrombin and fibrinogen.

Processing of drugs and hormones: The liver can detoxify substances such as alcohol and excrete drugs such as penicillin, erythromycin and sulfonamides into bile. It can also chemically alter or excrete thyroid hormones and steroid hormones such as estrogens and aldosterone.

Excretion of bilirubin: As previously noted bilirubin, derived from the haeme of aged red blood cells, is absorbed by the liver from the blood and secreted into bile. Most of the bilirubin in bile is metabolized in the small intestine by bacteria and eliminated in faeces.

Synthesis of bile salts: Bile salts are used in the small intestine for the emulsification and absorption of lipids.

Storage: In addition to glycogen, liver is a prime storage site for certain vitamin (A, B12, D, E and K) and minerals (copper and iron), which are released from the liver when needed elsewhere in the body.

Phagocytosis: The stellate reticuloendothelial (Kupffer) cells of the liver phagocytize aged red blood cells, white blood cells and some bacteria.

Activation of vitamin D: The skin, liver and the kidneys participate in synthesizing the active form of vitamin D. of tumours in about 30 rodent cancer models.

3. REGENERATION OF LIVER

The liver has an exceptional capacity to regenerate after injury. Proliferation of all populations of cells within the liver, including hepatocytes, biliary epithelial cells and endothelial cells occurs. DNA synthesis is initiated in these cells within 10 to 12 hours after surgery or injury and essentially ceases in about 3 days. Cellular proliferation begins in the periportal region (i.e. around the portal triads) and proceeds toward the centers of lobules. Proliferating hepatocytes initially form clumps, and clumps are soon transformed into classical plates. Similarly, proliferating endothelial cells develop into the type of fenestrated cells typical of those seen in sinusoids.

4. CONCEPT OF HEPATOPATHY

Hepatopathy is the term used to denote a group of disorders associated with liver. Liver disease is any condition that causes liver inflammation or tissue damage and affects liver function. Cause may include infection, injury exposure to drugs or toxic compounds, ethanol ingestion in the form of beverages. Effects may include inflammation, scarring, obstructions, clotting, abnormalities and liver failure. Diabetes mellitus, obesity and hyperlipidemia etc are predisposing factors of liver disorders.

Jaundice and icterus denote yellow skin and sclera discoloration respectively. They are the major signs in liver disorders. They both reflect systemic bilirubin retention. Jaundice occurs when bilirubin production exceeds hepatic clearance capacity; there can be conjugated or unconjugated hyperbilirubinemia³.

5. ETIOLOGICAL FACTORS

Health or disease is a net result of our physical activity, diet and what we feed our mind. In the manifestations liver disorders also diet influence. A more spicy, sour and salty diet alcohol, incompatible and unhygienic foods and water, toxins, drugs can alter normalcy of liver. Deranged immunoregulation and viral attack are also causes. Psychological state also influence. In present era alcohol is not alone a causative factor in liver disorders. In non alcoholic liver disorders food stuffs and sedentary life style are much contributing factors.

6. PREVENTION

In hepatopathy prevention plays a great role, because treating liver with drug is again a crucial state as liver acts on these same drugs. Sometimes drugs may deteriorate the prognosis than an expected advantage. In economical view also treating pathology related with liver is quite heavy. The synthetic lifestyle which we follow today doubles the work of liver and lessens the care to it. Reduce the work to liver and save its life span by a healthy life style.

Abstinence from alcohol consumption is very important as liver tries detoxifying by self

harming resulting hepatic injury. A balanced diet is very important. Avoid fatty foods, low quality oils, once used oils in cooking. One should maintain lipid profile and serum glucose level. Modifying the life style with enough physical activities is essential.

Herbal drugs which are beneficial in hepatopathy.

1. *Curcuma longa* Linn.
2. *Tinospora cordifolia*
3. *Emblica officinalis* Gaertn.
4. *Phyllanthus* sps.
5. *Glycyrrhiza glabra*
6. *Ricinus communis* Linn.
7. *Citrullus colocynthis* Schard
8. *Cichorium intybus*
9. *Picrorhiza kurroa* royle ex Benth
10. *Andrographis paniculata* (Burn.f.) Miers ex Hook f.
11. *Eclipta alba* (Linn.) Hassk.
12. *Boerhaavia diffusa* Linn.
13. *Ocimum sanctum* Linn.
14. *Aegle marmelos* (Linn.) Corr.
15. *Solanum nigrum*
16. *Coccinia grandis*
17. *Asparagus officinalis*
18. *Mollugo cerviana*
19. *Wedelia chinensis* Merril
20. *Carthamus tinctorius* L.
21. *Trianthema decandra* L.
22. *Polygonatum cirrhifolium* Royle
23. *Pavetta indica* var. *tomentosa* Hook.
24. *Asarum europaeum* L.
25. *Tecomella undulate*
26. *Flacourtia indica* (Burm.f.) Merr.
27. *Salix alba* L.

REFERENCES

1. Carroll M. Leevy, Evaluation Of Liver Function In Clinical Practice, The Lilly Research Laboratories, Indiana.
2. Gerard J. Tortora, Bryan Derrickson, Principles of Anatomy And Physiology, Biological Science textbooks, USA, 11th edition, pg 918-921.

3. Robins and Cotran, Pathologic Basis of Disease, Saunders An imprint of Elsevier, Sanat Printers Kundli.7th Edition.