

Role of drugs on Yakritavikara (non-alcoholic fatty liver disease)

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ABSTRACT

Liver is very crucial organ that play an important role in many functions etc. But due to faulty diet, unhealthy life style, unwholesome regimen, drug toxicity etc. Liver disease like Fatty liver, Hepatitis, Jaundice, liver cirrhosis, ascites has occurred. According to WHO, about 46% of global diseases and 59% of mortality is because of chronic diseases and almost 35 million people in the world die of chronic diseases. According to National statistics in the UK, Liver diseases have been ranked as the fifth most common cause of death. Liver disease is the major cause of death every year. Nowadays, Fatty liver become common. The main aim is to find special drugs and plants work for liver detoxify.

Keywords : Fatty liver

I. INTRODUCTION

Fatty liver is a term which describes excess deposition of fat in the liver. In normal persons, about 5-10% of liver is composed of fat. When it becomes more than 10%, known as fatty liver. It is a reversible condition that can be resolved by changing one's lifestyle. Fatty liver attributed various unrelated symptoms of gas, bloating, heart burn, constipation, diarrhoea and dyspepsia to fatty liver¹. There are two types of fatty liver, one is alcoholic fatty liver disease and other is non-alcoholic fatty liver disease. Alcohol can lead to a spectrum of damage to the liver. Abstaining will cause fatty liver to subside within 6 weeks. When there is no intake of alcohol but still there is fatty liver called NAFLD. When the fat in the liver causes deranged liver function test, it is known as steatohepatitis. When the fat was due to NAFLD then the resulting steatohepatitis is known as NASH. If left untreated, it can lead to permanent scarring of liver and eventual liver failure. % . In Ayurveda, Yakrita (liver) is Koshtangawhich is mentioned in charakasharira. Yakrita is the moola of raktavahasrotas, mentioned in Charaka vimana and Sushrutasharira. Function of Liver are secretory, Excretory, Metabolic, Synthetic,

Detoxification, Storage etc. Yakritavikara is not specifically mentioned in samhitasbut in different contest of nidana and chikitsa following type of vikaras are mentioned related to Yakrid-dalyudara mentioned in Sushrutanidana.

Kamala, Kumbh kamala mentioned in Charaka chikitsa².

Hallimaka, Laghraka mentioned in Sushrutauttar tantra.

Panakimentioned in Vangasen.

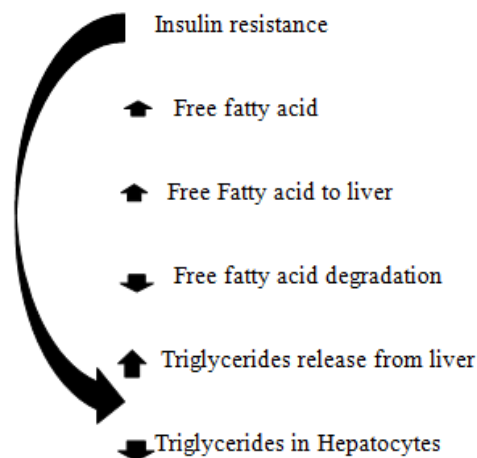
Liver have wide ranging functions include synthesis of clotting factors and metabolism of drugs and bilirubin etc.

II. MATERIAL AND METHODS

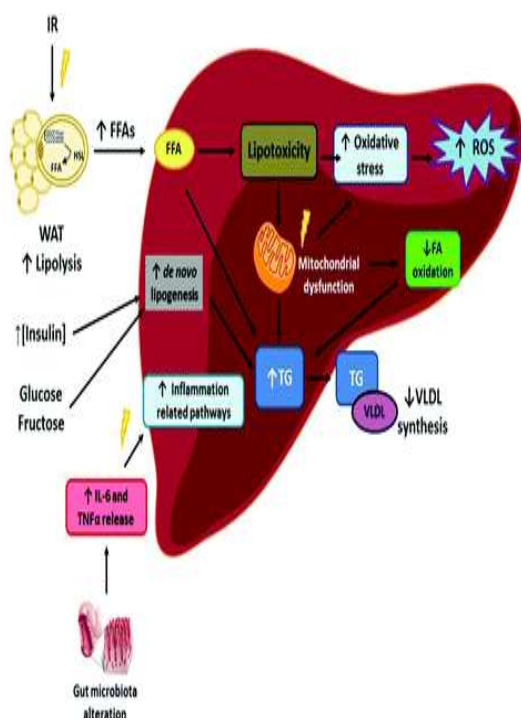
For this article , We collected all from Charaka Samhita, Sushruta Samhita, Asthangahridayam, Asthangasangraha, Chakrapani, Madhava nidana, Bhavaprakasha, Bhaishajyaratnavali , Harrison, Davidson and few other articles.

PATHOPHYSIOLOGY OF NON-ALCOHOLIC FATTY LIVER DISEASE

NAFLD pathogenesis involves the complex interaction among hormonal, nutriti-onal, genetic factors³.



Subsequent activation of TNF-alpha, oxidant stress through the production of reactive oxygen species and production of endotoxin then results in inflammation and eventually fibrosis.



Symptom of Liver disease³⁻⁴

Abdominal pain (Right upper quadrant)
 Fatigue
 Malaise
 Nausea
 Vomiting
 Swollen abdomen
 Itchy skin
 Irregular bowel

Markers of Hepatotoxicity³⁻⁴

SGOT
 SGPT
 TOTAL BILIRUBIN
 TOTAL PROTEIN
 GGT LEVELS

Dravya act on Liver⁵

1. Daruharidra
2. Kakamachi
3. Apamarga
4. Bhoonimba
5. Kaasni
6. Paarijata

7. Punarnava
8. Karanja
9. Karvellaka
10. Rohitaka
11. Chitraka

1. Daruharidra

Berberine, important chemical constituent and presence of tikta rasa reduces the excretion of excessive formation of bile pigments⁵. It also reduces the level of serum enzymes in the blood and decreases the inflammation in liver cells⁶. Functions are Raktashodhana, Tvaka, Mamsaprasadhaka and Yakrituttejak⁵.

2. Kakamachi

The ethanol extract showed remarkable hepatoprotective activity⁷.

3. Apamarga

Methanol extract also showed dose-dependent decrease in the levels of SGPT, SGOT, ALKP and total bilirubin⁸.

4. Bhunimba

Major chemical constituent andrographolide. Oral administration of aqueous extract of leaves to mice delayed the hepatic tumorigenic condition induced by hexachlorocyclohexane. Hepatoprotective activity of the extract was confirmed and suggested to be due to antioxidant action⁹.

5. Kaasni

Cichotyboside, sesquiterpene glycoside isolated from the seeds of Cichorium intybus. It works significant anti-hepatotoxic activity. It reduced the elevated levels of liver enzymes such as SGOT.

6. Parijata

Leaves contain iridoid glycosides, mannitol, beta-sitosterol. Fresh juice of plant used in hepatomegaly¹⁰.

7. Karanja: contain Quercetin, Palmitic acid, Stearic acid, Oleic acid, Karanjin, Pongampin. These act as Anti-microbial, Anti-oxidant, Inhibited massive hepatic macrophage and recruitment to the injured Liver¹¹.

7. Karvellaka: contain Saponin, Tannins, Momodicine, Charantin. These work in reduce insulin resistance, reduce fat accumulation. It used in hepatoprotective action, Anti-obesity, Anti-diabetic¹².

8. **Rohitaka:** contain Betulinic acid, Tecomin, Tecomelloside, Undulatoside that act as Carminative and Laxative. It uses in Liver-spleenomegaly disorders, Diabetes, Blood disorders, Toxins, Obesity¹³.

10. **Chitraka:** contain Plumbagin, Plumbagic acid, Naphthoquinone, Chitanone. Their work enhance Liver metabolism, Indigestion, Nausea, Inflammation, Lowering cholesterol level¹³.

Table- 1

Drug	Rasa	Guna	Virya	Vipak a	Dosha karma	Pharmacological action	Therapeutic effect
Daruharidra	Tikta, Kashaya	Laghu, Ruksha	Ushna	Katu	Kapha-pitjvikaro	Deepana, Yakrid-uttejaka, Pitt-saraka	Agnimandya, Yakritavikara
Kakamachi	Tikta	Laghu, Snigdha	Anushna	Katu	Tri-doshghna	Deepana, Yakrid-uttejaka	Agnimandya, Chardi
Apamarga	Katu, Tikta	Laghu, Ruksha, Tikshna	Ushna	Katu	Kapha-vatashamaka	Rochana, Deepana, Pachana	Lekhana, Vranashodhana, Deepana, Pachana
Bhoonimba	Tikta	Laghu, Ruksha	Ushna	Katu	Kapha-pitta hara	Deepana, Yakrid-uttejaka, Pitt-saraka	Vibandha, Yakrid-vridhhi, Shotha-hara
Dugdheni	Tikta, Katu	Laghu, Ruksha, Tikshna	Ushna	Katu	Kapha-pitta hara	Deepana, Yakrid-uttejaka	Udara roga, Kamala, Vibandha
Kaasni	Tikta	Laghu, Ruksha	Ushna	Katu	Kapha-pitta hara	Deepana, Yakrid-uttejaka	Yakrid- vikara, Agnimandya
Paarijata	Tikta	Laghu, Ruksha	Ushna	Katu	Kapha-vata hara	Deepana, Anulomana, Pitta-saraka	Agnimandya, Vibandha, Pittjvikara

PATHYA

PathyaAhara:

- ✓ Madhuudaka (2 teaspoons of honey with lukewarm water) – empty stomach early in the morning.
- ✓ Fruits/salads- preferably with breakfast.
- ✓ Eating fruit like Amla, Dadim, Munkka, Anjjir, Apple etc.
- ✓ Beet root contain nitrates, Betalains that help in detoxify your liver.

- ✓ Milk (double toned)- once or twice in a day.
- ✓ MungaYusha (Mungadaal sprout cooked with vegetables like spinach, carrots, bottle guards etc.)-once in a day as main meal.
- ✓ Increasing your intake of carbohydrates to be in proportion with the amount of protein you eat.
- ✓ Yava mixed roti – as required.
- ✓ Other like Patola, Amalaki – as required.

Pathya Vihara:

- ✓ Vyayama (physical exercise) like brisk walking- 3-4 kms per day
- ✓ Yogic exercises like: Yoga mudrasana, Bhujngasana, Dhanu-vakrasana, Surya namskara, Setubandhasana, Paschim-uttanosana, Ardh-mtsyeindriyasana etc.
- ✓ Pranayama like BhastrikaandKapalabhati as per requirement.

APATHYA

ApathyaAhara:

- ✓ Excessive intake of dairy products like milk, butter, buttermilk, ghee, etc.
- ✓ Adhyasana, Vishmashana, Virudha, Vidahi, Akalabhojana, Abhojana.
- ✓ Junk food, Coffee, Tea, smoking, tobacco, alcohol.
- ✓ Avoid high sugar diet.
- ✓ Avoid excess salt.
- ✓ Avoid fatty diet.
- ✓ Moolaka , Dadhi, Sukta, Sura etc.
- ✓ Sugar, sweets, Maida products rice, potatoes etc.

Apathya Vihara:

- ✓ Atinidra (Excessive Sleep), Irregularities in sleeping pattern.
- ✓ Less physical work.
- ✓ Diwaswapna, Vegdharana, Vireka Vamana Sneha Vibhrama
- ✓ Over stress, anger, hurry, Depression etc.

III. DISCUSSION

On the basis of characteristics of drugs i.e having Rechana, Mutrala, Vata-shamaka, Lekhana, Agnivardhaka , Aam , Meda, Kaphanasak qualities etc.

On Modern parameters, Drugs have Anti-inflammatory, Hepato-protective action, Anti-oxidant properties etc.

IV. CONCLUSION

Liver diseases has an increasing worldwide. First start from minor and last end upto cirrhosis. Liver diseases can be caused by a multi-factors like faulty lifestyle, invalid drugs, therefore requiring diverse plants and targeted treatment options.

Nowadays, everyone knows Ayurveda – When diet is wrong , medicine is of no use. When diet is correct, medicine is of no need. So we must

focus on different plants , Diets, Lifestyle and our regular checkup of whole body.

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