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The Role of Arogyavardhini Vati in the management of non alcoholic fatty liver disease (NAFLD): A case study

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ABSTRACT

Non alcoholic fatty liver disease has prevalence rate around 9.32% in Indian population. More than 50% people of our country relay on Ayurveda for liver disease.

Kutuki (Picrorhiza kurroa) is mostly used herb of Ayurveda in liver diseases.

Non alcoholic fatty liver disease (NAFLD) is a most common disease of our country.

NAFLD is multi-factorial disease single target.

Arogyavardhini vati is a polyherbo-mineral formulation mentioned in Ayurvedic formulary of india. It has been used for centuries with claimed efficacy and safety in treatment of jaundice, liver disorders and various skin disorders. It consists Picrorrhiza kurroa (kutki), Terminalia chebula (Haritaki), Terminalia bellerica (Bhibhitaka), Emblica officinalis (Amalaki), Asphaltum (shilajatu), commiphora wightii (Guggulu), Ricinus communis (Eranda), Azadirachta indica (Neem leaves) and metal including shuddha rasa (detoxified mercury), Shuddha Gandhaka (detoxified sulfur), Loha bhasma (iron), abhraka bhasma (mica), tamra bhasma (copper).

Key words- Fatty liver, Kutuki, Arogyavardhini vati

Introduction

The main stages of NAFLD are

1.Simple fatty liver (steatosis)- a largely harmless build-up of fat in the liver cells that may only be diagnosed during tests carried out for another reason.

2.non-alcoholic steatohepatitis (NASH)- a more serious form of NAFLD, where the liver has become inflamed.

3.fibrosis- where persistent inflammation causes scar tissue around the liver and nearby blood vessels, but the liver is still able to function normally.

4. cirrhosis- the most severe stage, occurring after years of inflammation, where the liver shrinks and becomes scarred and lumpy; this damage is permanent and can lead to liver failure and liver cancer.

Simple fatty liver (steatosis) can be treatable with shaman chikitsa of Ayurveda.

Aim of the study- To evaluate the efficacy of Arogyavardhini Vati in Non alcholic fatty liver disease

Objective of the study-

1) Study of Non Alcholic fatty liver disease

2) Study of Arogyavardhini Vati

Plan of research-

Type of study- Single case study
Place of study- Ayurved College Sion, Mumbai.
Sample size- Single, Case study
Name of drug– Arogyavardhini Vati
Dosage and time – Internal application 250mg 2 times a day for 3 months

Drug Review

Arogyavardhini Vati

Shuddha rasa (detoxified mercury)- 1 part

Shuddha Gandhaka (detoxified sulfur)- 1 part

Loha bhasma (iron)- 1 part

Abhraka bhasma (mica)- 1 part

Tamra bhasma (copper)- 1 part

Terminalia chebula (Haritaki)- 2 part

Terminalia bellerica (Bhibhitaka)- 2 part

Emblica officinalis (Amalaki)- 2 part

Asphaltum (shilajatu)- 3 part

commiphora wightii (Guggulu)- 4 part

Plumbago indica (Chitrakmula)- 4 part

Picrorrhiza kurroa (kutuki)- 18 part

For mixing purpose

Ricinus communis (Eranda)

Azadirachta indica (Neem leaves)

Case report

A obese 48 years old man complaining of Daurbalya (lethargy), Arochak (lack of appetite), Avipak (Upper abdominal discomfort), Angmard (body pain).

Clinical finding

The patient had a Madhyama koshthi, Mandagni, and Madhyama bala Kapha-Vata Prakruti. Both the heart rate and blood pressure were within acceptable bounds. The patient had a body mass index of 28.2 and was obese, weighing 77kg. There was no abnormality observed in the cardiovascular or respiratory systems. It was found that he was feeling discomfort when the right hypochondrium was palpated during a gastrointestinal examination.

Local examination- per abdomen- Right hypochondrium-liver was palpable.

Criteria of inclusion-

1) Patients having age between 20 to 70 years of either sex
2) Abdominal obesity
3) Hyper-triglyceridaemia

Criteria of exclusion-

1) Age below 20 and above 70 years
2) Patient suffering from Diabetes mellitus, Hypertension
3) Systemic illness such as Tuberculosis, Carcinoma and endocrine disorders like cushing's syndrome, hypothyroidism
4) Patient having the history of myocardial infarction or unstable angina.
5) Patient having major renal or liver disorders.

Investigations- USG Abdomen and Pelvis

Criteria of assessment-

Daurbalya (Lethargy)

Arochak (Lack of appetite)

Avipak (Upper abdominal discomfort)

Angmard (body pain)

Result-

Assessment criteria	Before treatment	After treatment
Daurbalya (Lethargy)	Moderate	Mild
Arochak (Lack of appetite)	Moderate	Absent
Avipak (Upper abdominal discomfort)	Moderate	Mild
Angmard (body pain)	Severe	Absent

USG abdomen and pelvis

Before Treatment- Hepatomegaly with grade 2 fatty liver

After Treatment- Normal liver size with grade 1 fatty liver

Discussion- An essential organ for food metabolism is the liver. Acharyas have conjectured about the formulation of Yakrita from Raktadhatu as Ayurveda explains the fundamental principles of embryology and organogenesis, including PanchaMahabhoota, Tridosha, Sapta5fdhatu and others. The bodys many organs are composed of various combinations of Raktadhatu and Mahabhuta.

In terms of Nidana and Samprapti, NAFLD like Sthaulya (obesity) is a Santarpanajanya vyadhi (disease inducted by overnutrition). Agni-vikruti (vitiation of the digestive process) is the first step in the disease. It creates Apakvaannarasa (an imperfectly digested end product), which in turn vitiates Kapha-dosha and causes uneven development and deposit of Meda (fat tissue) in Yakruta.

This disease may be associated with fatty liver. The primary component of Arogyavardhini vati is Kutuki (picrorhizakurroa Royle ex Benth). Through performing Pachana karma, Kutuki, a Tikta rasa Pradhana, can assist in reducing Ama. Many studies have demonstrated to assist individuals with NAFLD in improving their liver function because it is primarily a hepatoprotective.

Conclusion- It can be concluded that Arogyavardhini Vati for 3 months provided better relief in the signs and symptoms of fatty liver mainly in Arochak and Angmard and significant control in fatty liver grade 2 to grade 1.

Conflict of Interest- The authors declare that there have no conflicts of interest associated with the publication.

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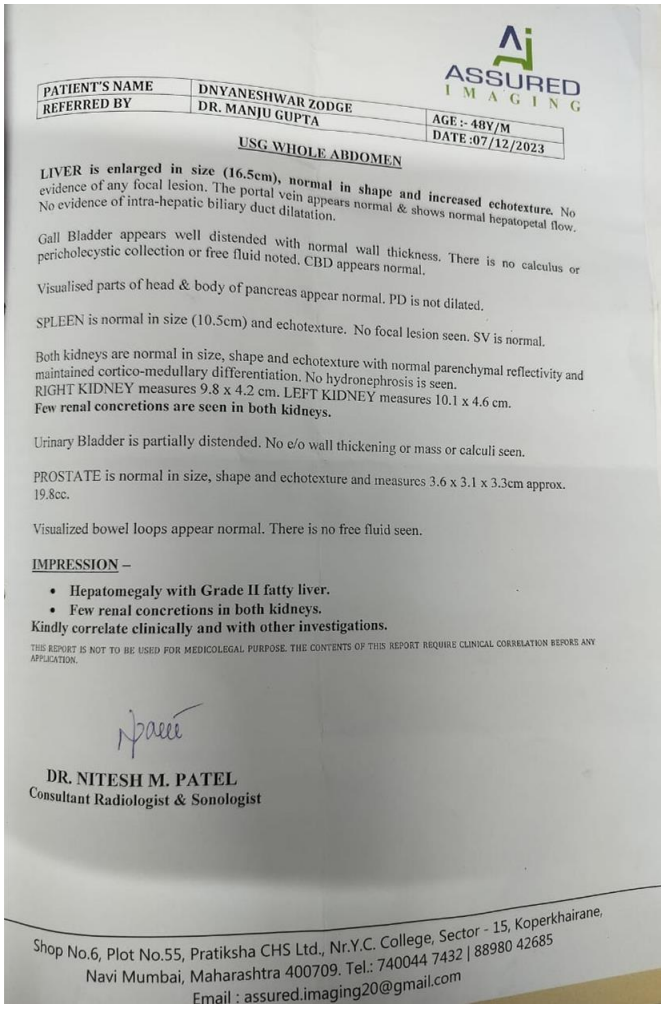
Before



ASSURED IMAGING

PATIENT'S NAME	DNYANESHWAR ZODGE	AGE :- 48Y/M
REFERRED BY	DR. MANJU GUPTA	DATE :07/12/2023

USG WHOLE ABDOMEN

LIVER is enlarged in size (16.5cm), normal in shape and increased echotexture. No evidence of any focal lesion. The portal vein appears normal & shows normal hepatopetal flow. No evidence of intra-hepatic biliary duct dilatation.

Gall Bladder appears well distended with normal wall thickness. There is no calculus or pericholecystic collection or free fluid noted. CBD appears normal.

Visualised parts of head & body of pancreas appear normal. PD is not dilated.

SPLEEN is normal in size (10.5cm) and echotexture. No focal lesion seen. SV is normal.

Both kidneys are normal in size, shape and echotexture with normal parenchymal reflectivity and maintained cortico-medullary differentiation. No hydronephrosis is seen.
RIGHT KIDNEY measures 9.8 x 4.2 cm. LEFT KIDNEY measures 10.1 x 4.6 cm.
Few renal concretions are seen in both kidneys.

Urinary Bladder is partially distended. No e/o wall thickening or mass or calculi seen.

PROSTATE is normal in size, shape and echotexture and measures 3.6 x 3.1 x 3.3cm approx. 19.8cc.

Visualized bowel loops appear normal. There is no free fluid seen.

IMPRESSION –

- **Hepatomegaly with Grade II fatty liver.**
- **Few renal concretions in both kidneys.**

Kindly correlate clinically and with other investigations.

THIS REPORT IS NOT TO BE USED FOR MEDICOLEGAL PURPOSE. THE CONTENTS OF THIS REPORT REQUIRE CLINICAL CORRELATION BEFORE ANY APPLICATION.

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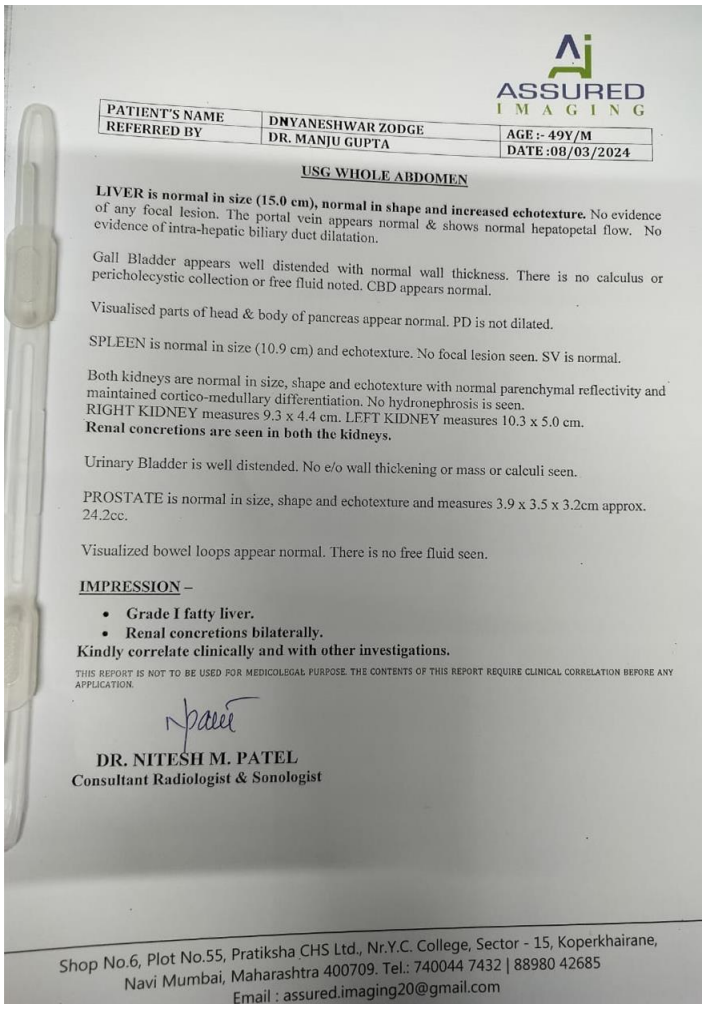
After



ASSURED IMAGING

PATIENT'S NAME	DNYANESHWAR ZODGE	AGE :- 49Y/M
REFERRED BY	DR. MANJU GUPTA	DATE :08/03/2024

USG WHOLE ABDOMEN

LIVER is normal in size (15.0 cm), normal in shape and increased echotexture. No evidence of any focal lesion. The portal vein appears normal & shows normal hepatopetal flow. No evidence of intra-hepatic biliary duct dilatation.

Gall Bladder appears well distended with normal wall thickness. There is no calculus or pericholecystic collection or free fluid noted. CBD appears normal.

Visualised parts of head & body of pancreas appear normal. PD is not dilated.

SPLEEN is normal in size (10.9 cm) and echotexture. No focal lesion seen. SV is normal.

Both kidneys are normal in size, shape and echotexture with normal parenchymal reflectivity and maintained cortico-medullary differentiation. No hydronephrosis is seen.
RIGHT KIDNEY measures 9.3 x 4.4 cm. LEFT KIDNEY measures 10.3 x 5.0 cm.
Renal concretions are seen in both the kidneys.

Urinary Bladder is well distended. No e/o wall thickening or mass or calculi seen.

PROSTATE is normal in size, shape and echotexture and measures 3.9 x 3.5 x 3.2cm approx. 24.2cc.

Visualized bowel loops appear normal. There is no free fluid seen.

IMPRESSION –

- **Grade I fatty liver.**
- **Renal concretions bilaterally.**

Kindly correlate clinically and with other investigations.

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