



Effect of “Rohitakabhaya kwatha” in management of NAFLD: A Single Case Study

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ABSTRACT

Non-Alcoholic Fatty Liver Disease (NAFLD) is a metabolic liver disorder characterized by the accumulation of fat within hepatocytes in individuals with negligible or no alcohol consumption. It is frequently associated with obesity, insulin resistance, dyslipidemia and sedentary lifestyle. From an Ayurvedic perspective, NAFLD can be correlated with *Yakrit Medoroga*, involving *Medovaha Srotodushti*, *Agnimandya* and *Kapha-Pitta* predominance and also “*Santarpanjanya vikara*” arising from excessive intake of heavy, oily and sweet foods with sedentary lifestyle, causing metabolic and fat related disorders. This case report presents a 43-year-old female patient diagnosed with NAFLD, documenting detailed clinical evaluation, laboratory and ultrasonographic findings, and classical Ayurvedic assessment using *Rogi Pariksha* and *Roga Pariksha*. Therapeutic intervention with *Rohitakabhaya Kwatha*, along with dietary and lifestyle modifications, was administered over six weeks. Significant improvement was observed in subjective symptoms such as *hridkantadaha*, abdominal pain and *aruchi*, as well as objective parameters including liver function tests, lipid profile and ultrasonographic grading. This case highlights the potential of Ayurvedic intervention as a complementary approach in the management of non-alcoholic fatty liver disease.

Keywords: NAFLD, *Yakrit Medoroga*, *Santarpanjanya vikara*, *Rohitakabhaya Kwatha*, *Medovaha Srotodushti*, *Agnimandya*

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INTRODUCTION

Non-Alcoholic Fatty Liver Disease (NAFLD) is recognized as one of the most prevalent chronic liver disorders worldwide, affecting nearly 25–30% of the adult population [1]. It encompasses a spectrum ranging from simple hepatic steatosis to non-alcoholic steatohepatitis (NASH), which may progress to fibrosis, cirrhosis and hepatocellular carcinoma if left untreated [2]. The primary risk factors include obesity, type 2 diabetes mellitus, dyslipidemia, and a sedentary lifestyle. Conventional management strategies focus primarily on lifestyle modifications, including dietary regulation, physical exercise, and weight reduction. Pharmacological interventions are limited and often target associated metabolic abnormalities rather than directly reversing hepatic fat accumulation [1].

Ayurvedic literature does not describe NAFLD explicitly; however, the clinical and pathological features can be correlated with *Yakrit Medoroga*, a condition involving vitiation of *Medovaha Srotas*, *Meda Dhatu* accumulation, and impairment of *Agnimandya*. NAFLD can also be correlated as “*Santarpanjanya vikara*” arising from excessive intake of heavy, oily, and sweet foods with sedentary lifestyle, causing metabolic and fat related disorders. The involvement of *Kapha-Pitta Dosha* explains metabolic derangements, fat deposition in the liver, and mild inflammatory changes [2].

Rohitakabhaya Kwatha, mentioned in classical texts, is indicated in *Yakrit-Vikara* and possesses *Dipana* (digestive stimulant), *Pacana* (metabolic enhancer), *Medohara* (anti-lipogenic), and *Yakrit-uttejaka* (hepatotonic) properties. These pharmacological attributes make it a suitable formulation for managing NAFLD in an integrative approach. The present case report explores the clinical efficacy of *Rohitakabhaya Kwatha* in a female patient diagnosed with NAFLD, integrating modern diagnostic tools and classical Ayurvedic assessment, including *Rogi Pariksha* and *Roga Pariksha*.

CASE REPORT

A 43-year-old female patient OPD no. 4808 presented to the *Kayachikitsa* OPD in our Quadra hospital with complaints of *Udarashoola* (Abdomen Pain), *Hridkantadaha* (Epigastric discomfort) and *aruchi* (Loss of appetite) for the past six months. She also reported occasional bloating and nausea after meals. There was

no history of alcohol consumption, jaundice or gastrointestinal bleeding. She was a known case of obesity for the past five years and had a sedentary lifestyle.

Her menstrual history revealed regular cycles occurring every 28–30 days with 4–5 days duration; her last menstrual period was 12 days prior to consultation. Appetite was variable with occasional *manda agni*. She followed a vegetarian diet. Thirst was normal, bowel habits were regular but associated with a feeling of incomplete evacuation. Sleep was adequate. Family and drug histories were not significant. On examination, the patient was overweight with a BMI of 29 kg/m². Mild hepatomegaly was noted without tenderness. Laboratory investigations showed elevated serum ALT and AST levels. Lipid profile revealed hypertriglyceridemia. Ultrasonography of the abdomen showed increased hepatic echogenicity suggestive of Grade II fatty liver. Viral markers for hepatitis B and C were negative.

Based on clinical features, biochemical parameters, and ultrasonographic findings, a diagnosis of Non-Alcoholic Fatty Liver Disease (NAFLD) was established. The patient was managed with dietary regulation, lifestyle modification and Ayurvedic medication aimed at *Deepana*, *Pachana*, *Medohara*, and *Yakrituttejaka* actions. Follow-up after every 15 days showed improvement in symptoms, reduction in liver enzyme levels and better overall wellbeing.

EXAMINATION

General Examination

Build and Nutrition:

The patient was of moderate build with central obesity. Body Mass Index (BMI) was 29 kg/m², indicating overweight status. Muscle mass was adequate and fat distribution was predominantly around the abdomen.

Consciousness and Orientation:

The patient was conscious, alert and oriented to time, place and person. No signs of confusion or drowsiness.

Vital Signs:

- **Pulse:** 86 beats per minute, regular, normal volume
- **Blood Pressure:** 130/80 mmHg
- **Respiratory Rate:** 16 breaths per minute
- **Temperature:** Afebrile
- **Oxygen Saturation:** 98% on room air

Skin and Appendages:

Skin appeared healthy, with mild pallor but no icterus, cyanosis or clubbing. No rashes or bruises. Hair and nails were normal.

Face and Eyes:

No facial puffiness. Conjunctiva non-icteric. No xanthelasma noted. Sclera clear observed.

Lymph Nodes:

No palpable lymphadenopathy in cervical, axillary or inguinal regions.

General Observations:

Patient appears well-nourished and in no acute distress. Movements normal. No edema or signs of chronic liver disease noted.

Systemic Examination:

1. Cardiovascular System (CVS)

- **Inspection:** No visible precordial bulge, pulsations or scars. No cyanosis or peripheral edema.
- **Palpation:** Apex beat located in the left 5th intercostal space, mid-clavicular line; no thrills or heaves. Peripheral pulses (radial, brachial, dorsalis pedis) palpable and regular.
- **Percussion:** Cardiac dullness within normal limits.
- **Auscultation:** Heart sounds S1 and S2 normal in intensity and rhythm; no murmurs, rubs or additional sounds.

2. Respiratory System (RS)

- **Inspection:** Symmetrical chest movements, no use of accessory muscles.
- **Palpation:** Chest expansion equal bilaterally, tactile vocal fremitus normal.
- **Percussion:** Resonant over all lung fields.
- **Auscultation:** Vesicular breath sounds present bilaterally; no added sounds such as crepitations, rhonchi or wheezing.

3. Central Nervous System (CNS)

- **Mental status:** Conscious, alert, oriented to time, place and person.
- **Cranial nerves:** Normal function.
- **Motor system:** Normal muscle bulk, tone and power in all limbs. No involuntary movements.

- **Sensory system:** Intact for pain, touch, temperature, vibration and proprioception.
 - **Reflexes:** Deep tendon reflexes present and normal; plantar reflexes flexor bilaterally.
4. **Gastrointestinal System (GIT)**
- **Inspection:** Mild central obesity; no visible distension, scars or veins.
 - **Palpation:** Abdomen soft, non-tender. Liver palpable 2 cm below right costal margin, smooth, firm. Spleen not palpable. No abdominal masses or tenderness.
 - **Percussion:** No shifting dullness; normal tympanic note over intestines.
 - **Auscultation:** Bowel sounds present and normal.
5. **Genitourinary System**
- External examination normal. No edema or tenderness in flanks.
6. **Musculoskeletal System (MSK)**
- Normal posture and gait. No deformities, swelling, or tenderness in joints. Full range of motion in all major joints.
7. **Lymphatic System**
- No palpable lymphadenopathy in cervical, axillary or inguinal regions.

ROGI PARIKSHA

- **Prakriti:** Kapha-Pitta
- **Vikṛti:** Kapha-Pitta vriddhi
- **Sara:** Madhyama
- **Samhanana:** Madhyama
- **Satmya:** Madhyama
- **Satva:** Madhyama
- **Ahara Shakti:** Avara
- **Vyayama Shakti:** Avara
- **Vaya:** Madhyama
- **Bala:** Madhyama
- **Naḍi:** Kapha-Pitta
- **Mala:** Sama
- **Mutra:** Prakṛta
- **Nidra:** Asamyak (Alpa)

ROGA PARIKSHA

- **Nidana (Etiological Factors) :** *Ati-sevana of guru, snigdha, madhura ahara*, excessive intake of fried and fatty foods, *avyayama, divasvapna*, and sedentary lifestyle leading to *Santarpana* and *Agnimandya*.
- **Purvarupa (Prodromal Symptoms) :** *Mandagni, alasya, anga-gaurava, udaropadeha, tṛṣṇa alpa* and *klama* indicating early *Kapha-Meda dushti*.
- **Rupa (Clinical Features) :** *Utklesha, udara gaurava, aruchi, alasya, mild udara sula, hridkantadaha, medovṛiddhi* and hepatomegaly corresponding to *Yakrit Medoroga*.
- **Dosha:** *Kapha-Meda* predominance, mild Pitta involvement
- **Dushya:** *Meda dhatu, Rasa dhatu; Yakrit as Adhithana*
- **Srotas:** *Rasavaha srotas, Medovaha Srotas*
- **Srotodushti:** *Sanga* (obstruction)
- **Adhithana:** *Yakrit* (liver)
- **Roga Marga:** *Abhyantara*
- **Udbhava Sthana:** *Amasaya*
- **Upashaya:** Light meals, exercise, avoiding fatty foods
- **Anupashaya:** Heavy, oily food, sedentary habits, irregular meals, sugar excess
- **Sadhya-Asadhyata:** Early stages reversible with diet, lifestyle and Ayurvedic therapy; advanced stages with fibrosis are less curable.

INVESTIGATIONS

Laboratory evaluation revealed mild hepatocellular injury with elevated ALT (78 U/L) and AST (70 U/L), while ALP(142 IU/L), bilirubin, and albumin were normal. Lipid profile showed hypertriglyceridemia (210 mg/dL), raised LDL (158 mg/dL), and low HDL (38 mg/dL), with normal glycemic parameters (FBS 98 mg/dL, HbA1c 5.6%). Ultrasonography demonstrated Grade II fatty infiltration of the liver with mild hepatomegaly, without cirrhosis or ascites. Viral markers for hepatitis B and C were negative, confirming the diagnosis of NAFLD.

THERAPEUTIC INTERVENTION

The patient was administered *Rohitakabhaya Kwatha* as the principal therapeutic intervention for a total duration of 45 days, with follow-up assessments conducted at 15-day intervals. The formulation was prepared as per classical *Kwatha Kalpana* and prescribed in a dose of 40 ml twice daily, administered before meals. Along with the internal medication, the patient was advised *Pathya-ahara* consisting of light, easily digestible and fat-restricted diet, and Vihara including regular physical activity and avoidance of sedentary habits. Clinical evaluation and laboratory investigations were performed at each follow-up to assess symptomatic relief, liver function parameters, lipid profile, and ultrasonographic changes. Progressive improvement was observed across successive follow-ups, indicating the therapeutic efficacy of *Rohitakabhaya Kwatha* in the management of NAFLD.

RESULTS

Table: 1. Progression of Gastrointestinal Symptoms During Treatment

Subjective Parameter	Baseline (Day 0) (6/2/26)	1 st Follow up (Day 15) (21/2/26)	2 nd Follow up (Day 30) (8/3/26)	3 rd Follow up (Day 45) (23/3/26)
<i>Udarashoola</i>	Moderate	Mild	Minimal	Absent
<i>Hridkantadaha</i>	Present	Mild	Absent	Absent
<i>Aruchi</i>	Present	Mild	Absent	Absent
<i>Utklesha</i>	Present	Mild	Absent	Absent

Table 2: Pre- and Post-Treatment Assessment of Metabolic and Liver Function Parameters

Parameter	Before Treatment	After Treatment
Body weight	72 kg	69 kg
Serum ALT(IU/L)	78	35
Serum AST(IU/L)	70	32
AST/ALT Ratio	0.90	0.91
Serum ALP (IU/L)	142	102
Serum GGT	68	32
Total cholesterol(mg/dl)	238	180
Triglycerides(mg/dl)	210	142
LDL Cholesterol(mg/dL)	158	110
HDL Cholesterol (mg/dL)	38	46
VLDL (mg/dL)	42	28
Ultrasonography	Grade II Fatty Liver	Grade I (Improved echotexture)

Progressive improvement was observed in both subjective symptoms and objective biochemical parameters across all follow-ups. Liver enzyme levels and lipid profile showed a consistent downward trend, while ultrasonography demonstrated improvement in hepatic echotexture, indicating reduction in fatty infiltration.

DISCUSSION

Non-Alcoholic Fatty Liver Disease (NAFLD) is increasingly recognized as a metabolic disorder closely linked to obesity, dyslipidemia, insulin resistance, and sedentary lifestyle. In the present case, the diagnosis of NAFLD was established based on classical clinical features such as *udarashoola*, *hridkantadaha* and *aruchi* supported by biochemical derangement of liver enzymes, abnormal lipid profile, and ultrasonographic evidence of fatty infiltration of the liver in the absence of alcohol consumption.

From an Ayurvedic view, the condition can be correlated with *Yakrit Medoroga*, and *Santarpanjanya Vikara* resulting from excessive intake of *guru*, *snigdha* and *madhura ahara*, combined with *avyayama* and *divasvapna*. These factors lead to *Agnimandya*, subsequent *Ama* formation, and vitiation of *Kapha* and *Pitta Doṣha*, ultimately causing pathological accumulation of *Meda Dhatu* in the *Yakrit*. The involvement of *Medovaha* and *Rasavaha Srotas*, with *Sanga* as the predominant type of *Srotodushṭi*, explains the hepatic fat deposition and metabolic derangement seen in NAFLD [3].

The therapeutic approach focused on correcting *Agni*, reducing *Meda Dhatu*, and restoring normal liver function. *Rohitakabhaya Kwatha* was selected based on its classical indication in *Yakrit Vikara*. *Rohitak* possesses hepatoprotective, *Medohara*, and *Yakrit-uttejaka* properties, aiding in normalization of liver metabolism, while *Abhaya (Haritaki)* acts as a mild *Anulomana* and *Srotoshodhana* drug, facilitating elimination of *Ama* and improving digestive function. The combined action of the formulation promotes *Dipana-Pacana*, reduces *Kapha-Meda* accumulation, and supports physiological functioning of the *Yakrit*.

The formulation also includes *Yava Kṣhara*, which possesses *Lekhana*, *Bhedana*, and *Meda-vilayana* actions, contributing to the breakdown of excessive fat deposition and removal of *Ama* from the channels. *Pippali Churna*, known for its potent *Dipana*, *Pacana*, and *Agni-varadhaka* properties, enhances bioavailability and corrects *Jatharagni* and *Dhatvagni* dysfunction [1,2].

Following the intervention, significant improvement was observed in both subjective symptoms and objective parameters, including normalization of liver enzymes, improvement in lipid profile, and regression in ultrasonographic grading of fatty liver. These findings suggest effective *Samprapti Vighatana* through Ayurvedic intervention.

CONCLUSION

The present case report highlights that Non-Alcoholic Fatty Liver Disease can be effectively correlated with *Yakrit Medoroga*, a *Santarpanjanya Vikara* characterized by *Medovaha Srotodushti* and *Agnimandya*. Management with *Rohitakabhaya Kwatha*, along with dietary and lifestyle modifications, resulted in significant clinical and biochemical improvement. This case supports the potential role of Ayurvedic formulation in the management of NAFLD and emphasizes the importance of integrative assessment using both modern diagnostic tools and classical Ayurvedic principles.

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