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EFFECT OF VIRECHANOTTARA YAKRUTSHOOLVINASHANI VATI OVER SHARAPUNKHA KSHARA REGIMENS IN FATTY LIVER DISEASE: A COMPARATIVE CLINICAL STUDY

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ABSTRACT

Fatty Liver Disease (FLD), including Alcoholic and Non-Alcoholic types, is one of the most widespread chronic liver disorders globally. Non-Alcoholic Fatty Liver Disease, recently termed Metabolic Associated Fatty Liver Disease (MAFLD), is strongly linked with obesity, diabetes, dyslipidaemia, and metabolic syndrome. The condition may progress from simple steatosis to non-alcoholic steatohepatitis, fibrosis, cirrhosis, and hepatocellular carcinoma. With a global prevalence of 25–30%, its incidence continues to rise due to sedentary lifestyle and unhealthy dietary patterns, increasingly affecting younger populations. Although early stages are often asymptomatic, FLD contributes significantly to liver-related morbidity and cardiovascular risk, emphasizing the importance of early diagnosis and effective management. **Aim:** To compare the therapeutic efficacy Snehapana with *Purana Indukanta Ghrita*, Virechana with *Pathyadi Yoga*, followed by *Yakrutshoolvinashini Vati* with *Phalatrikadi Kashaya* anupana, against *Sharapunkha Kshara* with *Sharapunkha Kashaya* in the management of FLD. **Methodology:** An open-labelled randomized controlled trial was conducted on 40 subjects with clinical features of FLD. Group A (n=20) received Deepana-Pachana for 3 days, Snehapana for 4 days, Vishrama Kala for 3 days, Virechana with Pathyadi Yoga, and then Yakrutshoolvinashini Vati with Phalatrikadi Kashaya for 34 days. Group B (n=20) received Sharapunkha Kshara with Sharapunkha Kashaya for 45 days. **Results:** Group A showed superior improvement in subjective parameters such as *Aruchi*, *Daurbalya*, and VAS pain score, while Group B provided slightly better relief in right upper quadrant pain. Objective findings revealed highly significant improvement in fatty liver grade, HDL, bilirubin, SGPT, and triglycerides in Group A, whereas Group B showed better reduction in total cholesterol and LDL. **Conclusion:** FLD, correlated with *Yakrutgata Medoroga*, primarily results from *Kapha-Meda Dushti* and *Agnimandya*. Combined *Shodhana* and *Shamana* therapy demonstrated substantial clinical and biochemical improvement, indicating its efficacy in restoring hepatic function.

KEYWORD: Fatty liver disease (FLD), Non-Alcoholic Fatty Liver Disease (NAFLD), Alcoholic Fatty Liver Disease (AFLD), Purana-indukanth-ghrutam, Yakrutshoolvinashini vati, Sharapunkha kshara.

INTRODUCTION

Fatty Liver Disease, or *Hepatic Steatosis*, is a major global health concern in the modern era. It refers to a condition where large vacuoles of triglyceride fat accumulate within hepatocytes through the process of steatosis abnormal retention of lipids within the liver cells.[1] Broadly, it is classified into *Alcoholic Fatty Liver Disease (AFLD)* and *Non-Alcoholic Fatty Liver Disease (NAFLD)*, now often termed *Metabolic Associated Fatty Liver Disease (MAFLD)*. The condition represents a spectrum ranging from simple steatosis (fat accumulation without inflammation) to non-alcoholic steatohepatitis (NASH), fibrosis, cirrhosis, and hepatocellular carcinoma. The global prevalence of NAFLD is estimated at 25–30%, with an increasing trend even among younger populations due to sedentary lifestyle and poor dietary habits. In India, prevalence rates range between 9–32%, and more than 90% of chronic alcohol consumers develop some degree of fatty liver.[2] Among those with alcoholic fatty liver, approximately one-third

progress to cirrhosis. The disease is largely asymptomatic in its early stages but contributes significantly to liver-related morbidity and mortality, while also posing risks for cardiovascular and metabolic disorders.

From allopathic medical perspective, fatty liver develops due to defects in fatty acid metabolism, often associated with energy imbalance and insulin resistance. These abnormalities result in excessive transport of fatty acids from adipose tissue to the liver and impaired oxidation, leading to fat deposition. Dysfunction of receptor molecules such as *PPAR-α*, *PPAR-γ*, and *SREBP1*, which regulate enzymes for fatty acid synthesis and oxidation, further aggravates lipid accumulation in hepatocytes.[3] Risk factors include obesity, diabetes mellitus, hyperlipidaemia, chronic alcohol consumption, drug toxicity, and sedentary lifestyle.

Management of fatty liver primarily focuses on controlling risk factors and halting disease progression through lifestyle modification, dietary regulation, exercise, and pharmacotherapy with lipid-lowering agents. However, no definitive curative treatment is yet established.

In Ayurvedic science, management of fatty liver is described disease can be correlated with conditions such as *Yakrut Vikara*, *Medoroga, Yakrutodara*, and *Raktavaha Srotodushti*. It arises mainly from *Kapha-Meda Dushti* and *Agnimandya*, resulting in *Meda Sanchaya* within the *Yakrut*. The causative factors resemble those of *Dushi Visha* and *Medo Dhatu Vikara* namely, excessive intake of *Snigdha*, *Madhura*, and *Guru Ahara*, coupled with lack of physical activity (*Avyayama*), daytime sleep (*Divaswapna*), and sedentary habits (*Asyasukha*). These lead to metabolic derangement, *Ama* formation, and obstruction of *Srotas*, ultimately causing hepatic dysfunction.[4]

AIMS AND OBJECTIVES

1. To evaluate the combined effect of Deepana Pachana with Anantadi churna[5], Snehapana with Purana Indukant ghrita[6], Virechan with Pathyadi yoga[7] followed by Yakrutshoolvinashini Vati[8] with Phalatrikadi Kashaya[9] anupana in management of Fatty Liver Disease.
2. To evaluate the alone effect of Sharpunkha[10] Kshara with Sharpunkha Kashaya anupana in management of Fatty Liver Disease.
3. To compare the combined effect of Deepana Pachana with Anantadi churna, Snehapana with Purana Indukanta ghrita, Virechana with Pathyadi yoga followed by Yakrutshoolvinashini Vati with Phalatrikadi Kashaya anupana over Sharpunkha Kshara with Sharpunkha Kashaya anupana in management of Fatty Liver Disease.

MATERIALS AND METHODS

Study design

40 patients of FLD of either gender were selected and they were randomly divided into two groups, each containing 20 patients. Patients under the Group A were treated with Virechanottara Yakrutshoolvinashini Vati with Phalatrikadi Kashaya and Group B were treated with Sharpunkha Kshara with Sharpunkha Kashaya.

Source of patients

40 Patients with classical signs and symptoms of FLD with grade 1-3 were selected from OPD and IPD of TGAMC & hospital, Ballari.

Criteria for selection of cases

Inclusion Criteria

- Subjects with signs and symptoms of Fatty liver disease
- Ultrasonography evidence of fatty liver grade 1 to 3 irrespective of cause.
- the age group of 18 to 60 years.
- who will sign for informed consent.
- who are fit for virechana and Kshara intake.

Exclusion Criteria

- Subjects suffering with multiorgan failure
- sepsis and shock which interfere with the treatment will be excluded
- Pregnant and lactating women

DIAGNOSTIC CRITERIA

a) Subjective parameters

- Aruchi (Anorexia)
- Agnimandya (Loss of appetite)
- Right upper quadrant discomfort
- Dourbalya (Fatigue)

b) Objective parameters

- Ultrasonography with evidence of fatty liver grade 1 to 3
- LFT
- Lipid Profile
- VA scale

INTERVENTION

GROUP A (n=20)

- Deepan-Pachana - Anantadi churna 3 gms with sukhoshna jala twice a day before food morning and evening for 3 days
- Snehapana – Purana Indukantha Ghrita test dose 30 ml on 4th day, followed by 50 ml for 3 consecutive days in the morning hour after passing bowel and bladder ushana jalapana as anupana.
- Vishrama kala- Sarvanga Abhyanga with Lashuna taila followed by bashpa sweda in the morning for next 3 days after Snehasiddhi lakshna.

- Virechana with Pathyadi yoga 40gm with ushna jala in the morning after passing bowel and bladder.
- Yakrutshoolavinashani vati –500 mg capule, two caps before food with Phalatrikadi kashaya as anupana 20ml mixed with equal quantity of water, three times in a day, for next 34 consecutive days.

GROUP B (n=20)

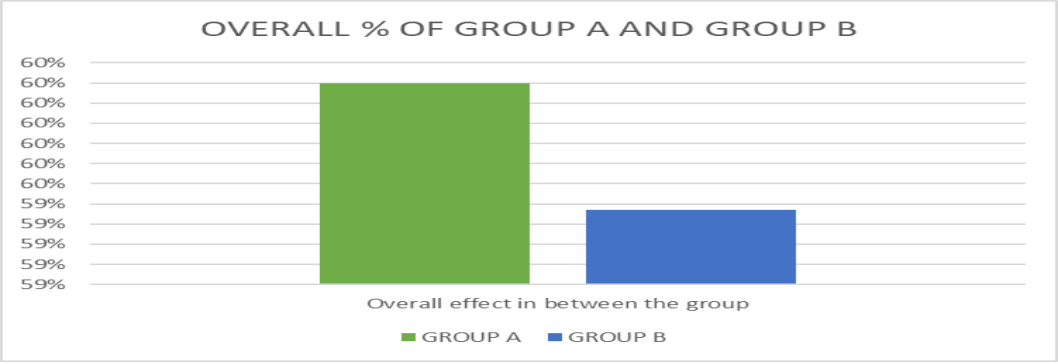
- Sharapunkha kshara 500mg capsule one capsule, before food with sharapunkha kashaya as anupana 20ml mixed with equal quantity of water, three times in a day, for 45 days.

OBSERVATION AND RESULT

In Group A, a highly significant improvement was observed in subjective parameters such as Aruchi, Agnimandya, Daurbalya, and Right Upper Quadrant Abdominal Pain, with $p < 0.01$. Among objective parameters, Fatty Liver Grading, HDL, Total Bilirubin, SGPT, and VA Scale of Pain showed statistically significant improvement, indicating enhanced liver function and symptomatic relief. Parameters like Total Cholesterol, Triglycerides, LDL, Direct Bilirubin, and SGOT showed non-significant changes.

In Group B, significant improvement was observed in subjective parameters such as Agnimandya, Daurbalya, and Right Upper Quadrant Abdominal Pain, with $p < 0.05$, while Aruchi showed a non-significant change. Among objective parameters, Fatty Liver Grading, Total Cholesterol, LDL, and VA Scale of Pain demonstrated highly significant improvement ($p < 0.001$), indicating positive changes in liver health and lipid metabolism. Other parameters such as Triglycerides, HDL, Total and Direct Bilirubin, SGOT, and SGPT showed non-significant results.

	Parameters	Group A P value	Group B P value	Better group
Subjective Parameter	Aruchi	0.0039	0.0625	Group A
	Agnimandya	<0.0001	<.0001	Group Both
	Daurbalya	0.001	0.0312	Group A
	Rt. Upp. Quad. Abd. Pain	<.0001	<.0001	Group B
Objective Parameter	Fatty Liver Grading	<.0001	<.0001	Group A
	Total Cholesterol	0.123	0.0013	Group B
	Triglyceride	0.0547	0.321	Group A
	HDL	0.0013	0.633	Group A
	LDL	0.2245	<0.0001	Group B
	Total Bilirubin	0.012	0.1388	Group A
	Direct Bilirubin	0.1388	0.866	Group A
	SGOT	0.0799	0.730	Group A
	SGPT	0.0088	0.623	Group A
	VA Scale of Pain	<0.0001	<0.0001	Group A



On comparing both groups, Group A showed superior improvement in most subjective parameters such as Aruchi, Daurbalya, and VA Scale of Pain, while Group B showed slightly better results in Right Upper Quadrant Abdominal Pain. In objective parameters, Group A demonstrated highly significant improvement in Fatty Liver Grading, HDL, Total Bilirubin, SGPT, and Triglycerides, whereas Group B showed better results in Total Cholesterol and LDL levels. Overall, both groups showed positive therapeutic outcomes; however, Group A exhibited a broader and more significant improvement in both subjective and objective parameters compared to Group B.

DISCUSSION

Fatty liver disease in allopathic medicine arises from defects in fatty acid metabolism, driven by energy imbalance and insulin resistance, leading to excess

hepatic fat deposition. Dysfunction of regulatory receptors like PPAR-α, PPAR-γ, and SREBP1 further exacerbates lipid accumulation, especially in individuals with obesity, diabetes, hyperlipidaemia, alcohol use, or sedentary habits. Current management focuses on lifestyle modification and risk-factor control, as no definitive curative treatment exists in allopathic medicine.

The term Yakrutgata Medoroga can be understood etymologically as a condition where Meda has entered or accumulated in the Yakrut, resulting in a pathological state. The Yakrut, being the organ responsible for regulation and metabolism, loses its functional balance when accumulated by excessive Meda. Yakrut Vikara, Yakrutodara, and Medoroga, which we can correlate closely with modern Fatty Liver Disease. This condition develops due to Kapha-Meda Dushti and Agnimandya, leading to Meda Sanchaya within the Yakrut.

Purana Indukanta Ghrita is a primary action lies in restoring Agni, balancing Doshas, and correcting Dhatu metabolism, especially of Meda. The Ghrita base acts as a Yogavahi, allowing deeper absorption of active ingredients into tissues, particularly the liver—the main center of Pitta and lipid processing. By Samskara Anuvartana, Ghrita enhances drug potency, bioavailability, and nourishment of Rasa and Meda Dhatus without pathological accumulation. Its Deepana, Pachana, and Rasayana actions correct Agnimandya and eliminate Ama, preventing further Kapha-Meda vitiation. Purana (aged) Ghrita gains Lekhana and Medohara properties, supporting gradual mobilization and metabolism of hepatic fat. With Vata-Kapha Shamana and Srotoshodhana effects, it removes channel obstruction, normalizes circulation, and supports healthy liver function. Additionally, its hepatoprotective, antioxidant, and immunomodulatory qualities protect hepatocytes from oxidative stress and promote tissue regeneration, making it highly suitable for managing fatty liver disease.

Lashuna Taila- Lashuna's Ushna, Tikshna, and Teekshna properties kindle Jatharagni and Dhatvagni, correcting Agnimandya and promoting proper lipid metabolism. Its Medoshoshana and Lekhana effects help mobilize deposited fat and remove Srotorodha in the liver. Being prepared in Taila, it becomes a potent Snehayukta Deepana-Pachana Dravya, improving absorption and bile secretion while supporting Rasayana and hepatoprotective actions. Pharmacologically, Lashuna shows antioxidant, hypolipidemic, and anti-inflammatory effects, reducing oxidative stress and protecting hepatocytes, making it highly effective in fatty liver management.

Yakrutshoolavinashini Vati- is described in Bhaishajya Ratnavali, effective in Yakrutgata Medoroga due to its Agnideepana, Pachana, Medohara, Yakrituttejaka, and Shoolaprashamana actions. By correcting Agnimandya, it enhances digestion, improves metabolism, and prevents Ama and abnormal Meda deposition in the liver. Its Tikta and Katu Rasa with Laghu and Ruksha Guna pacify Kapha and Meda, reducing fatty infiltration and hepatic congestion. The formulation stimulates bile secretion and detoxification, aiding clearance of metabolic waste and lipids. With Shothahara and analgesic properties, it relieves hepatic discomfort, while its Raktashodhaka and antioxidant effects protect hepatocytes from inflammation and oxidative damage.

Phalatrikadi Kashaya- has Deepana, Pachana, Yakrituttejaka, Medohara, and Raktashodhaka actions, Triphala base (Haritaki, Bibhitaki, Amalaki) possesses Tikta–Kashaya Rasa and Laghu–Ruksha Guna, which pacify Kapha and Pitta and correct Agnimandya. By enhancing Jatharagni and Dhatvagni, it improves digestion and metabolism, while its Lekhana and Medoshodhaka effects reduce fat accumulation in the liver. Amalaki supports hepatocyte regeneration and protects against oxidative stress, while Haritaki and Bibhitaki aid detoxification and bile secretion. Its antioxidant, anti-inflammatory, and hepatoprotective actions prevent lipid peroxidation and promote healthy liver function.

Sharapunkha Kshara- prepared from Tephrosia purpurea, is a potent remedy due to its Deepana, Pachana, Medohara, Lekhana, and Yakrituttejaka actions. With Tikta–Katu Rasa, Laghu–Ruksha–Ushna Guna, it pacifies Kapha and Meda, corrects Agnimandya, and improves Amapachana, thus restoring lipid metabolism. Being alkaline, it exerts strong Lekhana and Chedana effects, breaking down and mobilizing accumulated hepatic fat and clearing Srotorodha, enhancing hepatic circulation. Sharapunkha also demonstrates hepatoprotective, antioxidant, and anti-inflammatory properties, helping in hepatocyte regeneration, reducing congestion, and preventing oxidative damage. These actions make Sharapunkha Kshara highly effective in reducing fatty infiltration and improving liver function. Sharapunkha Kashaya also has same properties as above mentioned.

Virechana, is the prime Shodhana Karma for eliminating morbid Pitta, Kapha, and Meda from the Amlashaya and Pakwashaya, making it highly effective in Yakrutgata Medoroga. Since the liver is the seat of Ranjaka Pitta and Moola of Raktavaha Srotas, Virechana purifies these channels, improves bile flow, and enhances lipid metabolism, reducing hepatic fat deposition. Snehapana with Purana Indukanta Ghrita mobilizes doshas and digests Ama due to its Laghu and Tikshna properties. Modern research correlates Virechana with detoxification, improved fat excretion, reduced oxidative stress, and lowered lipid levels. After Shodhana, Agni is restored, Srotas are cleansed, and liver function rejuvenates, correcting the root pathology of fatty liver.

CONCLUSION

The Samprapti of Yakrutgatamedoroga, correlating with fatty liver disease, begins with Agnimandya caused by faulty diet and lifestyle, leading to Ama formation, Kapha-Pitta Dushti, and Srotorodha in Rasavaha, Raktavaha, and Medovaha Srotas. Gradually, Medodhatvagni Mandya results in improper fat metabolism and accumulation of Meda in the Yakrut, producing hepatic congestion and steatosis. In advanced stages, chronic Ama and Dosha Dushti cause inflammation, Vata involvement, and Dhatukshaya, leading to steatohepatitis, fibrosis, or cirrhosis.

In present study Group A received *Virechana* protocol consisting of *snehapana* with *purana indukanta Ghruta*, *virechana with pathyadi churna*, *yakrutshoolvinashani vati* with *phalatrikadi kashaya* anupana. Group B received only *sharapunkha kshara* with *sharapunkha kashaya*. Both subjective and objective parameters were assessed before and after the intervention.

In present clinical trial, on comparing both groups, Overall, both groups showed positive therapeutic outcomes; however, Group A exhibited a broader and more significant improvement in both subjective and objective parameters compared to Group B. hence null hypothesis is rejected and alternate hypothesis is accepted.

Even though parameters like Fibroscan/Elastography, MRI are not mentioned in present study, but it is observed that there is marked reduction in Scanning in both group after treatment. So further study can be done including these parameters.

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