

Successful management of non-alcoholic fatty liver disease with Siravedha

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CASE REPORT

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ABSTRACT

Background

Nonalcoholic Fatty liver disease (NAFLD) is a form of Simple fatty liver whose progression leads to adverse circumstances, e.g., metabolic dysfunction. Sushruta said that the Sira Vedha at Dakshin Kurpara Sandhi as a therapy for Yakrit Vikara Modern science also supports on the same page that phlebotomy treatment for some liver diseases but did not mention the exact site for phlebotomy. Still, because of a lack of clinical evidence, one cannot confidently practice it in routine exercise. Thus, there is a need to validate Sushruta's principle with clinical evidence for liver diseases.

Aim & Objectives

To study the efficacy of Siravedha in the management of Nonalcoholic Fatty liver disease.

Material & Methods

It is a single case study of 44 years old female patient suffering from complaints such as nausea, loss of appetite, distended abdomen, weight gain, constipation for 10 Months. As she was diagnosed with NAFLD by U.S.G. advised by her physician. The patient had severe insensitivity towards allopathic medicines, so she approached Ayurvedic treatment. After a thorough examination of the patient based on Ayurvedic

fundamentals, three sittings of Siravedha (65 ml Bloodletting) from the Dakshin Kurpar Sandhi (Rt. Cubital fossa) were done at the interval of 15 days (on baseline visit, 15th day, and 30th day) and followed was taken after one month.

Observations

U.S.G. Abdomen done after one month showed encouraging results and improvement in the liver grade, i.e., from grade I to grade 0. The liver showed normal shape and Echotexture. Moreover, clinical features, e.g., nausea, loss of appetite, distended abdomen, constipation, also resolved completely. The weight of the patient was also reduced by 5 kg within one month.

Discussion

Siravedha may decrease liver enzymes, oxidative stress, and necrosis, reducing apoptosis and improving liver cells' health.

Conclusion

This case report is helpful to plan further clinical studies in a large sample size by showing the efficacy of Siravedha in the management of Non-alcoholic Fatty liver disease without causing any undue event. This case study also reaffirms the classical reference of the specific site of Raktamokshana in a specific clinical condition.

Key Words

NAFLD, Siravedha, Dakshin Kurpar Sandhi, USG, Echotexture, Yakrut Vikara

Introduction

Nonalcoholic Fatty liver disease (NAFLD) is one of the hepatic appearances of metabolic syndrome. It is a form of Simple fatty liver. It is associated with characterized progressive hepatocellular injury. The prevalence of NAFLD is increasing day by day, one of the major causes of increasing widespread obesity and diabetes mellitus (D.M.)¹. If it is neglected, it can ultimately lead to liver cirrhosis and hepatocellular carcinoma, which are the cause of liver-related morbidity and mortality. In NAFLD, no pharmacological agent is established as a standard R.X., so

lifestyle modification is a single option for such patients. However, Sushruta said that the Sira Vedha, i.e., type of Raktamokshana at Dakshin Kurpara Sandhi as a therapy for Yakrit Vikara. Modern science also supports on the same page that phlebotomy treatment for some liver diseases but does not mention the exact site for phlebotomy. Still, because of a lack of clinical evidence, one cannot confidently practice it in routine exercise. Overview of all the above facts, through this case study, a novel attempt has been made to study the efficacy of Sirvedha with lifestyle modifications for the management of Nonalcoholic Fatty liver disease to generate clinical evidence.

Details of the Case

It is a single case study. The demographic details of the patient are provided in Table 1.

Chief Complaints

Chief & associated complaints of the patient are depicted in Table 2.

History of present illness

A 45-years-old female patient was symptomless before ten months; gradually, she suffered from clinical features mentioned in Table 2. She had taken symptomatic treatment from an allopathic physician, but she didn't get satisfactory relief. Therefore, she approached Panchakarma O.P.D. Mahatma Gandhi Ayurveda Hospital & research center, Salod, Wardha, Maharashtra for Ayurvedic treatment.

History of the patient

Detailed History of the patient is provided in Table 3.

General Examination (Clinical Findings)

- O/E- Status of the patient is moderate
- P/A: Hard, Non-tender but distended
- No abnormal findings such as Ascites/Hepatomegaly/Splenomegaly were noted in clinical examination.
- Blood pressure: 110/80 mm of Hg
- Weight: 63 kg
- Height: 141 cm
- Prakriti- Kaphapradhana Pittaja

Clinical features showed the abnormality of the gastrointestinal system, Rest of the systemic examination did not find any abnormality.

Ayurvedic Examination

- Ashtavidha Parikshana: It is depicted in Table 4.
- Strotas Parikashana: Rasavaha,Raktavaha Annavaha & Purishvaha Strotas Vikruta

Investigations

USG Abdomen & pelvis (20/08/21): Raised echotexture in liver having size 14.5 cm showing grade I Fatty liver. The Rest of the findings are normal.

Diagnosis

Yakrutodara (Nonalcoholic fatty liver disease)

Intervention

Three sittings of Siravedha were given to the patient at the interval of 15 days (on baseline visit, 15th day, and 31th day), followed was taken after one month. Approximately 65 ml of blood was let at each sitting from the Dakshin Kurpar Sandhi (Right Cubital fossa). Simultaneously, lifestyle modifications with diet regimes are also advised to the patient.

Result and Observations

After one month, the patient was assessed for clinical features and U.S.G. reports which were repeated. After three sittings of Siravedha, grade I fatty liver turned to normal and showed no raised echotexture in the liver. After this one month, the patient became symptom-free without giving any single medicine orally. Her lipid profile also got to normalcy. Assessment of the patient based on clinical features and radiological findings are shown in Tables 5 & 6, respectively.

Discussion

Effect of Siravedha, i.e., bloodletting in NAFLD, can be justified as follows: Hyperferritinemia is frequently observed in persons with chronic liver disease, especially in NAFLD, due to iron deposition in the liver, and it often induces insulin resistance and triggers grade of liver injury. Hyperferritinemia occurs in approximately one-third of patients with NAFLD, and it is primarily responsible for further hepatic fibrosis as a result of enhanced oxidative stress in the liver tissues. Siravedha may reduce these ferritin levels by evacuating blood from the body and avoiding such types of injury severity to liver tissues. Moreover, it also decreases elevated liver enzymes, oxidative stress, and necrosis, reducing apoptosis and improving liver cells' health. It avoids further liver damage and fibrotic changes by reducing such oxidative stress^{1,2}. The Hypolipidaemic effect of Siravedha in this patient can be justified based on the observations noted by a systematic review done by Jaruvongvanich, et al. The same observation is pointed out in this case also. In addition to this, the same review study showed that due to bloodletting, there occurs a significant drop in systolic blood pressure (from 148 mmHg to 130 mmHg), heart rate, and blood glucose levels; and there was a marked improvement in cholesterol levels. Reduction in triglyceride levels and rise

in the high-density cholesterol level due to Siravedha are also proved.

In this patient, a total five kg weight loss was observed within one month. A preliminary study conducted by Researcher Andreas Michalsen of the Charité-University Medical Centre in Berlin, Germany, to study the weight-reducing effect of bloodletting in obese people with metabolic syndrome also supports this finding of the current study by stating that bloodletting can use as therapy for weight & blood pressure reducing effect and to decrease the cardiovascular risk in such patients³. Obese patients or people with metabolic syndrome and hypertension often have above-average levels or high serum iron levels. This study also states that Siravedha reduces the body's stores of iron, RBC. The body uses iron stored in other sites to compensate for this deficit and uses for the formation of new RBC⁴. According to the study conducted by Andreas Michalsen, bloodletting is also a safe and effective way to reduce such types of iron stores. The weight-reducing effect of bloodletting is also supported by a study conducted at the University of California, San Diego, stating that 650 calories are washed out per pint of blood while donation. It may occur due to the burning of additional calories to replace the blood or plasma in the body (at least temporarily). The body's metabolism may increase due to the body's utilization to use energy for synthesis of new proteins, RBC, and other blood components to replace those lost while bloodletting⁵⁻¹¹.

Conclusion

This case report is helpful to plan further clinical studies in large sample size by showing the efficacy of Siravedha in the management of Nonalcoholic Fatty liver disease without causing any undue event. It also enhances the beneficial effect of lifestyle modification within a shorter duration. This case study also reaffirms the classical reference of the specific site of Raktamokshana in a specific clinical condition. Due to its iron depleting and anti-oxidant effect, it can become a safe and promising intervention to treat Nonalcoholic Fatty liver disease and avoid further liver damage.

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Tables

Table 1: Demographic details.

Name	XYZ
Sex	Female
Age	44 Years
Address	Wardha
Phone no.	*****8024
Occupation	Housewife
Marital status	Married
Education	Graduate
Socio economic status	Middle Class
O.P.D. No.	2108260012

Table 2: Chief and associated complaint.

Symptoms	Severity	Duration
Agnimandya (Loss of appetite)	Grade-2	Since 10 Months
Udaradhmana (Distension in abdomen)	Grade-3	
Aruchi (Loss of taste)	Grade-1	
Apakti (Indigestion)	Grade-2	
Malavstambha (Constipation)	Grade-2	
Shirshoola (Headache associated with nausea and vomiting)	Grade-2	
Weight gain	-	Two years

Table 3: History of the patient.

Heads	Details of the patient
Past History	No history of major medical disease
	H/O-Renal stone before two years(resolved after hydrotherapy)
	H/O- Severe insensitivity towards allopathic medicines
Family History	Mother: N.A.D.
	Father: Obese, and K/C/O/HTN
	Siblings: N.A.D.
Personal History	Diet: <ul style="list-style-type: none"> • Pure vegetarian diet, excess intake of spicy, oily, and fatty food • Intake of food at Irregular time
	Disturbed life due to stress, family, life
	Sleep: Interrupted
	No history of any addiction

Table 4: Ashtavidha Parikshan

Head	Observation
Nadi (Pulse)	84/min (Kaphapradhana Pittaja)
Mala(Stool)	Unsatisfactory Aniyamit
Mutra(Urine)	Samyak (5-6 times/day)
Jivha(Tongue)	Saam
Shabda (Speech)	Spashta
Sparsha (Touch)	Samshitoshna
Druka (Vision)	Spashta
Akruti (Posture)	Sthoola

Table 5: Assessment of the patient.

Type of complaint	Before Treatment (on 1 st day)	On 15 th Day	After Treatment (31 th day)
Agnimandya (Loss of appetite)	Grade-2	Grade-1	Grade-0
Udaradhmana (Distension in abdomen)	Grade-3	Grade-2	Grade-0
Aruchi (Loss of taste)	Grade-1	Grade-0	Grade-0
Apakti (Indigestion)	Grade-2	Grade-1	Grade-0
Malavstambha (Constipation)	Grade-2	Grade-1	Grade-0
Shirshoola (Headache associated with nausea and vomiting)	Grade-2	Grade-1	Grade-0
Weight gain	63kg	60 kg	58 kg

Table 6: Changes in radiological findings (U.S.G. Abdomen & Pelvis).

20/08/21 (Before Rx)	22/09/21 (1 month after Rx)
Raised echotexture in liver having size 14.5 cm showing grade I Fatty liver.	No raised echotexture in the liver. Normal U.S.G. Impression. No changes of fatty liver.