



Case Study

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EFFECT OF YAMANIKADI CHOORNAM IN NON-ALCOHOLIC FATTY LIVER DISEASE: A CASE STUDY

Athira Boban ^{1*}, Krishna Kumar K.M ², Ramu M ³

¹ PG Scholar, Department of Kayachikitsa, Sree Narayana Institute of Ayurvedic Studies and Research, Pangode, Puthoor, Kollam, Kerala, India

² Professor, Department of Kayachikitsa, Sree Narayana Institute of Ayurvedic Studies and Research, Pangode, Puthoor, Kollam, Kerala, India

³ Consultant Gastroenterologist, N.S Hospital, Palathara, Kollam, Kerala, India

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*Corresponding author

E-mail: athiraboban@gmail.com

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ABSTRACT

Non-alcoholic fatty liver is defined as the accumulation of fat in the liver parenchyma without inflammation in the absence of excess alcohol consumption. Its prevalence is increasing in the society due to westernized and changing life style. Higher incident rate are there among the obese and diabetic patients. As per the records from W.H.O, the number of chronic liver diseases including NAFLD had a steady growth in recent years. NAFLD exist as a risk factor in patients with heart diseases, kidney diseases and cancer. In Ayurveda, liver diseases are mentioned under the contexts of Udara and Kamala. NAFLD can be considered as a santarpanothavyadhi in which there is agnimandya and kaphamedo dushti. Eventually when sthanasramsaya takes place in the liver, the disease will manifest. A 60 year old male patient, with complaints of poor appetite, right upper quadrant discomfort and fatigue came with an USG report which showed grade II fatty infiltration of liver. On investigation slight elevation of SGPT was noted. Patient was advised to take Yamanikadi Choornam daily twice in the dose of 5 gm choorna with hot water as Anupana for 45 days. Yamanikadi Choornam is a formulation mentioned in Bhaishajya Ratnavali, Plihayakrut roga dhikar, having kaphamedohara deepana, pachana and hepatoprotective property. The fatty infiltration of the liver was found reduced to grade I and the liver function got normal at the time of completion of the treatment. The drug Yamanikadi Choorna was effective in improving liver function and reducing the fatty infiltration of the liver.

Keywords: non-alcoholic fatty liver, Yamanikadi choorna, liver function, echogenicity of liver, hepatoprotective.

INTRODUCTION

Non Alcoholic Fatty Liver is defined as the accumulation of fat in liver parenchyma without inflammation in the absence of excess alcohol consumption (less than 21 units in men and 14 units in women)¹. Non Alcoholic Fatty Liver Disease represents a spectrum of diseases from simple steatosis to cirrhosis through the stages of steatohepatitis and fibrosis². It is considered as the most prevalent liver disease after the incidence of Hepatitis B, Hepatitis C and Alcohol and it is directly proportional to obesity³.

Non-Alcoholic Fatty Liver Disease (NAFLD) is associated with metabolic risk factors such as Diabetes Mellitus, Obesity and Dyslipidemia. Histologically the disease is further categorised into Non Alcoholic Fatty Liver and Non Alcoholic Steato Hepatitis⁴. Non Alcoholic Hepatic Steatosis (Fatty Liver) characterised by either macro vascular or micro vascular accumulation of fat in liver where fibrotic changes have not yet occur.

Fatty liver is a metabolic health hazard and also it has earned the status of a serious condition worldwide. The current trend in the incidence of Non Alcoholic Fatty Liver Disease (NAFLD) is the manifestation of disease irrespective to the age and sex. Highest prevalence is described in those between 40-60 years of age. The disturbing factor is the children in our society being affected in an increasing manner yearly. A recent study conducted in Kannur district in Kerala showed that 60% of obese children were affected with non-alcoholic fatty liver⁵. The westernised life patterns might be the reason for the drastic increase in the

incidence of Fatty Liver during the recent years. A recent study conducted in Trivandrum city revealed that 49.8% people has affected with non-alcoholic fatty liver disease. On the lights of knowledge from current epidemics of Obesity and Diabetes Mellitus among adults and children residing in both developed and developing countries, the prevalence of Non Alcoholic Fatty Liver Disease (NAFLD) is expected further more prevalence in future.

Ayurveda deals the liver related ailments mainly in the contexts of Udara Chikitsa⁶ and Pandu Chikits⁷. The concepts mentioned in those contexts can be useful for understanding fatty liver in Ayurveda terms. Non-alcoholic fatty liver can be considered as a santarpanothavyadhi where there is Agni dushti, Ama and kaphamedo dushti are there in the samprapti. From the impaired dhatu Poshana and Parinama there will be the formation of Dushta vasa from Dushita mamsa dhatu. The Dushta vasa get lodged in Yakrit i.e. the Raktavaha srotomoola because there is kha vaigunyata already exists there. Yamanikadi Choornam⁸ is a formulation from Bhaishajya Ratnavali, Pliha Yakrit Rogadhikar which contains Yamanika, Chitraka, Yavakshara, Shadgrandhi, Danti and Pippali. Here all contents of the choorna have ushna, tikshna, deepana, pachana and kaphamedo hara properties.

MATERIAL AND METHODS

Place of study

Sree Narayana Institute of Ayurvedic Studies and Research, Pangode, Puthoor, Kollam 691602, Kerala, India

Ethical clearance

The study has been cleared by IEC vide approval reference number IEC/SNIASR-2018041809

Case presentation

A 60 year old Hindu male patient, ex- NRI and now a farmer by occupation reported to Kayachikitsa OPD, Sree Narayana Institute of Ayurvedic Science and Research, on 06.03.2019 with OP number 1903068 with complaints of poor appetite, fatigue and right upper quadrant discomfort of abdomen since 1 ½ year. He came with an USG report which showed elevated liver echogenicity with grade II fatty liver.

History of presenting complaint

Patient was apparently asymptomatic before 1 ½ years. Gradually he developed with the symptoms of moderate fatigue, moderate discomfort of right upper quadrant of abdomen and mild loss of appetite. He underwent thorough examination and abdominal sonographic investigation from a clinic and found increased echogenicity of liver with grade II fatty liver and prostatomegaly. Later he came for further treatment to Sree Narayana Institute of Ayurvedic Science and Research, Pangode, Puthoor, Kollam, Kerala, India.

History of Past illness

Patient is a known case of hypertension since 15 years.

Personal history

Table 1: Personal history

| | |
|--|---|
| Appetite: Poor | Bladder: Frequent micturition with interrupted flow of urine. |
| Allergy: Allergic to dust | Diet: Non vegetarian diet prefers more fried items like fish fry, omelette etc. |
| Addiction: Daily habit of smoking 1 packet of cigarette. | Sleep: Sound |
| Bowel: Regular | Exercise: Moderate |

Investigation

SGOT – 37 IU/L
ALP – 82 IU/L, T. Bilirubin – 0.7 mg/dl
SGPT – 56 IU/L, Albumin – 4.5 g/dl

Assessment criteria and grading

Assessment of subject is done by using USG grading as per American Gastroenterology Association and liver function test.

Table 2: USG grading

| No. | Grade | Features |
|-----|-----------------------|---|
| 0 | No fatty liver | |
| 1 | Grade I fatty liver | Slight diffuse increase in the fine echoes. Liver appears bright as compared to the cortex of the kidney. Normal visualization of diaphragm and intra-hepatic vessel borders. |
| 2 | Grade II fatty liver | Moderate diffuse increase in fine echoes. Slightly impaired visualization of the intra-hepatic vessels and diaphragm |
| 3 | Grade III fatty liver | Marked increase in the fine echoes. Poor or no visualization of intra-hepatic vessel borders, diaphragm and the vessels |

Course of treatment

Patient was advised to take 5 gm of Yamanikadi choorna twice daily before food with hot water as Anupana for 45 days. Patient was contacted once in 15 days for uninterrupted feedback.

RESULTS

Observed changes are mentioned in the Table 3.

Table 3: Observation

| Parameters | Before treatment | After treatment |
|---|----------------------|---------------------|
| USG abdomen | Grade II fatty liver | Grade I fatty liver |
| SGOT | 37 IU/L | 37 IU/L |
| SGPT | 56 IU/L | 44 IU/L |
| Fatigue | Moderate | Mild |
| Loss of appetite | Mild | Absent |
| Discomfort in right upper part of the abdomen | Moderate | Mild |

Thus Yamanikadi Choornam was found effective in improving the liver function as well as reducing the fatty infiltration of the liver.

DISCUSSION

NAFLD became a most affecting lifestyle disorder in recent years. The prevalence of its later stages is also increasing day by

day. Unhealthy food habits and inadequate physical exercise plays a major part in the manifestation of NAFLD. Due to these aetiologies, the Kaphadosha kopa occur in the body. That further leads to agnimandya and Ama formation. By that the Sama rasa

will form. While the Sama rasa circulates through the body, eventually it enters in to Yakrit, which is the Raktavaha srotomoola, as a part of dhatu Parinama to generate rakta dhatu. Due to the nidanas or aetiologies there is an existing Srotodushti present in the Yakrit. The utarottaraparinamita dhatus become Dushita due to Agni dushti and Ama. From the Dushita mamsa dhatu, the Upadhatu formed i.e. vasa also become Dushita. Vasa is the sudhamamsasyasneha. Yakrit itself is the kalamamsavishesha and as it is the Raktavaha srotomoola. Due to the Srotodushti and kha vaigunya in Yakrit, the Dushita vasa started deposit in the liver in an abnormal manner. Same way, eventually there will be medo dhatu dushti and abnormal fat deposition in the body.

Ayurveda consider the samprapti vighatana or breaking the samprapti as the treatment protocol for all diseases. So here the treatment should aim at deepana, pachana, kaphamedohara and Yakrit prasdana. Yamanikadi Choornam consists of 6 drugs. Most of them are deepana, pachana and kaphamedohara in action and it is also has hepatoprotective activity. Deepana and pachana properties of the choorna will do Amapachana and Agni deepana. Kaphamedohara property will scrape out the accumulated fat globules in liver and by that Srotoshuddhi will attain. Hepatoprotective property will enhance the health of liver.

CONCLUSION

Non Alcoholic Fatty Liver Disease is a most challenging health issue in the society. Yamanikadi Choorna is a classical Ayurveda medicine which has deepana, pachana and Strotoshodhaka, kaphamedohara and hepatoprotective activity. Hence Yamanikadi choorna has a significant role in the management of NAFLD.

Recommendation

- The modification of the choorna yoga for easy palatability
- Follow up study has to be conducted.

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