

Nittyta Virechana (Daily Purgation) effect of *Operculina turpethum* (L.) Silva Manso on Alcoholic Liver Disorder (ALD): A Case Report

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ABSTRACT

The liver is a key organ that performs many functions associated with metabolism, energy storage, and waste from the body. It assists to digest food, translate it to energy and store the energy until necessary. Liver disease is a wide-ranging term that states to any condition disturbing the liver functions. These conditions may progress for different reasons but can all harm the liver and impacts its operations. In the Ayurvedic classics, Yakut (Liver) is a Moola Sthana of Raktavaha Strotas. So, liver diseases come under the disorders of Raktavaha Strotas. Concerning the treatment part of Raktavaha Strotas Vikara, Virechana Karma has got prime importance.

Here we study Trivrutta Churna Nitya Virechana (Daily Purgation) effect in Yakrut Vikara (Liver Diseases) with abnormal liver function test.

In the present case study, the success story of a male Indian patient of age 39 having occupation farmer, the residence of a remote village, came to the Mahatma Gandhi Ayurvedic Hospital and Research Centre, outpatient Department of Panchakarma, Salod (H), Wardha, Maharashtra. He was complaining of severe anorexia, the fullness of abdomen, fatigue, nausea and abnormal bowel habit since 20 days, was treated with Trivrutta Churna (*operculina turpethum* L.) in the dose of 7 gms along with Anupana of Sharkhara 14 gms administered once in the morning for three weeks, was discussed. In a result, significant changes were recorded in the Liver Profile parameters *via* bilirubin-(total-direct-indirect), Alanine Transaminase (ALT), Aspartate Aminotransferase (AST) in each visit; along with subjective improvements in the subjective parameters without any adverse effects on safety parameters, i.e. Serum Keratinize, S Cholesterol and Blood sugar were remained within normal limits on the end of treatment. During the hospital stay of 21 days, the patient's clinical condition was improved day by day. On the 42nd day of study, patients found to be fit without any complaints. Nittyta Virechana with Trivrutta Churna was found effective and safe in normalising abnormal LFT in liver disorders.

Keywords: Liver disease; Raktavaha strotas vikara; Trivrutta; Virechana karma; Nitya virechana

INTRODUCTION

Alcohol is a leading hazard for chronic disease burden all over the world. Alcohol addicts and patients with the Alcoholic Liver Disorder (ALD) commonly suffer adverse penalties from drinking, such as significant economic burden, unemployment, loss of family, accidental injury or death [1]. The most severe form of alcohol abuse is alcoholism which leads to a range of

professional problems and consequences, personal matters, connections and health as a whole. Alcoholic Steatohepatitis (ASH) is a spectrum of fatty liver diseases which eventually turn to cirrhosis. Steatohepatitis is a common histological finding, found to be reversible to abstinence in 90% of a heavy drinker. Cirrhosis is usually a precursor of alcoholic hepatitis in up to 35 percent of heavy beverages [2]. As per the epidemiological data, inception of 80 gm. of daily alcohol in male and 20-40 gm. in a

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Received: November 18, 2021; **Accepted:** December 02, 2021; **Published:** December 09, 2021

Citation: Prakashrao PJ, Parwe SD, Nisargandha M (2021) Nittyta Virechana (Daily Purgation) effect of *Operculina turpethum* (L.) Silva Manso on Alcoholic Liver Disorder (ALD): A Case Report. *Pancreat Disord Ther.* 11: 221.

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female for an average of 10 to 12 years is essential for producing significant alcohol-induced liver damage, conversely only some of the individual who consumes alcohol in excess progress significant ALD [3,4].

ASH is a hepatocellular necrosis and inflammation pathological syndrome. The clinical symptoms range from symptomatic to open liver failure. Under grade fever, leukocytosis, jaundice, and mild rise in transaminases can be present. Histological characteristics of ash include parenchymal necrosis, malaria and a parivar neutrophilic infiltrate. Fatty changes, bridging necrosis, proliferation of bile ducts, cholestasis and fibrosis are also commonly presented. The clinical presentation can be almost like that with decompensated cirrhosis in patients with severe alcoholic hepatitis.

In the present case study, a case of sub-acute presentation of ALD, treated with Ayurveda intervention of *Operculina turpethum* (L.) i.e. Trivrutta Churna, evaluates its purgative effect was studied.

CASE PRESENTATION

A male Indian patient of age 39 having occupation farmer, the residence of a remote village, came to the Mahatma Gandhi Ayurvedic Hospital and Research Centre, outpatient Department of Panchakarma, Salod (H), Wardha, Maharashtra, with complaints of severe anorexia, the fullness of abdomen, fatigue, nausea and abnormal bowel habit since 20 days. He has visited the general practitioner of his village and took some undocumented medical intervention but did not improve the illness. As having believed in Ayurveda, he came to the Ayurveda hospital, was clinically examined and found to have moderate jaundice with two-finger hepatomegaly with pulse rate 100 and mild fever. The patient was investigated for liver profile and other related investigations. On examining, it was found to have total bilirubin-21.47 mg/dl, direct bilirubin-13.43 mg/dl, indirect bilirubin-08.04, Alanine Transaminase (ALT) 172.23 U/L, aspartate aminotransferase (AST) -217.28 U/L, S. alkaline phosphatase-124 IU/L, HbSAg-non-reactive, anti-HCV antibody-negative, blood sugar level (fasting)-109 mg/dl, S. Cholesterol-315 mg/dl, serum creatinine-1.32 mg/dl, with complete blood count-within the standard limit and ESR -70 mm in the first hr. In his personal history, as he was doing strenuous labour work on the farm from the age of 16 years, he was used to taking alcohol near about daily in the quantity of 90 ml per day from the age of 30 years till the illness

Diagnostic assessment

Physical Examinations of the patient wear pulse 88/min, Temperature 98°F, RR 20/min, Icterus +++, P/A Soft with mild tenderness at right hypochondriac region, Urine Yellowish in colour, faces normal yellowish colour. Considering all these physical findings and investigations reports, the patient was diagnosed with Alcoholic Liver Disorder (ALD) and was plan for Ayurveda intervention considering a good prognosis.

Therapeutic intervention

Case of ALD was treated in the In-patients department of Panchakarma, Mahatma Gandhi Ayurvedic Hospital and Research Centre, Wardha (M.S.). In the intervention, as the liver was got affected due to the abuse of alcoholism, Kamala Chikitsa principles, Yakrudalyudar Chikitsa principles and Raktavaha Strotas Moola Chikitsa principles was implemented for the Ayurveda management [5-7]. Considering all these Chikitsa principles, Nitya Virerchana (Daily Purgation) with Trivrutta Churna (*Operculina turpethum* L.) in the dose of 7 gm. with Anupana of Sharkhara 14 gm. once at 9 AM was administered for 21 days [8].

Follow-up and outcomes

The daily assessment was done to observe adverse events and serious adverse events. The liver profile parameters (bilirubin, AST and ALT) were assessed on 0, 11th, 21st and 42nd day of the intervention. The safety parameters (Serum Creatinine, Blood Sugar level (fasting), Serum Cholesterol and ESR) were recorded on the 0 and 21st day. Subjective assessment was done on subjective parameters (Jaundice, Fatigue, Loss of Appetite, Nausea, Vomiting, and Itching) on 0, 11th, 21st and 42nd day of the intervention. The objective, subjective and safety findings were presented in the tabular form in the follow-up and outcomes table. During the treatment period, i.e. from day 0 to 21st and in the next 21 days, no other adverse events or severe adverse event was noticed (Table 1).

Objective, subjective and safety parameters	Follow up days from start of intervention			
	Day 0	Day 11th	Day 21st	Day 42nd
Total bilirubin (mg/dl)	21.47	7.80	1.95	0.92
Direct bilirubin (mg/dl)	13.43	03.22	0.47	0.19
Indirect bilirubin (mg/dl)	08.04	04.58	1.48	0.73
Alanine Transaminase (ALT) (U/L)	172.23	20.17	67.62	38.01
Aspartate Aminotransferase (AST) (U/L)	217.28	57.31	54.97	85.00
S. Creatinine (mg/dl)	1.32	-	1.05	-

S. Cholesterol (mg/dl)	315	-	184.69	-
B. Sugar (Fasting) (mg/dl)	109	-	87.81	-
ESR (MM in 1st hour)	70	-	57	-
Jaundice (Grading 0 to 3)	3	2	1	0
Fatigue (Grading 0 to 3)	3	3	1	0
Loss of Appetite (Grading 0 to 3)	3	1	0	0
Nausea (Grading 0 to 3)	3	2	1	0
Vomiting (Grading 0 to 3)	1	1	0	0
Itching (Grading 0 to 3)	1	1	0	0

Note: All the subjective parameters grading was as: '0'=None, '1'=Mild, '2'=Moderate, '3'=Severe

Table 1: Follow up and outcomes table.

DISCUSSION

In the Ayurvedic classics, Yakruta (Liver) is a Moola Sthana of Raktavaha Strotas [9]. So, the liver diseases come under the disorders of Raktavaha Strotas. Clinical symptomatology of Yakrut Vikaras resembles Kamala Lakshana Samucchyaya and Yakrutdalyudara Lakshana Samucchyay [10,11]. Hence, Yakrut Vikara treatment principles come under Raktavaha Strotas Vyadhi, Kamala and Yakrutdalyudara.

Virechana Karma is a Panchakarma Shodhana principle in Raktavaha Strotas Vyadhi, Kamala and Yakrutdalyudara. In Kamala and Udara, Nitya Virechana is indicated by Acharyas. Charaka has advised Mruudu Virechana in Kamala, which will also be a treatment principle in Yakrutdalyudara and Raktavaha Strotas Mula Vyadhi. In the pathology of Kamala, it has been stated that the main Dosha which is being got affected is a Pitta [12]. For the treatment of Vitiated Pitta, Virechana [13,14] is said to be best among all the Shodhana procedures. For Virechana in Kamala, Charkacharya has recommended Sasharkara Trivrutta Churna Virechana Karma. So considering

these all things, the Trivrutta Churna Nitya Virechana with Anupana of Shakara in liver diseases has been studied in the present case report.

In the observation, significant changes were recorded in the Liver Profile parameters *via* bilirubin-(total-direct-indirect), Alanine Transaminase (ALT), Aspartate aminotransferase (AST) in each visit; along with subjective improvements in the subjective parameters without any adverse effects on safety parameters i.e. Serum Creatinine, S Cholesterol and Blood sugar were remained within normal limits on the end of treatment. During the hospital stay of 21 days, the patient's clinical condition was improved day by day. On the 42nd day of study, patients found to be fit without any complaints. A number of studies on liver health and related factors were reported [15-20].

CONCLUSION

Nitya Virechana (daily purgation) has a significant role in correcting abnormal liver function in Alcoholic Liver Disorder (ALD). In the present case study, it was observed that the Ayurveda intervention in the form of Nitya Virechana (Daily Purgation) was found to be effective and safe in the Alcoholic Liver Disorder (ALD).

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