

**ROLE OF PANCHAKARMA AND AYURVEDIC MEDICINE IN CONTORLING CLD
AND T2DM: A CASE STUDY****Acharya Manish¹, Dr. Gitika Chaudhary^{*2}, Dr. Richa³, Dr. Suyash Pratap Singh⁴, Dr. Manjeet Singh⁵ and
Dr. Tanu Rani⁶**¹Director, Meditation Guru, Jeena Sikho Lifecare Limited, India.²Senior Consultant, General Surgeon, BAMS, PGDIP, PGDGS, MS (Ayurveda), Jeena Sikho Lifecare Limited, India.³Senior Research Officer, BAMS, PGDIP, CICR, CAIM, CMW, Jeena Sikho Lifecare Limited, India.⁴Medical Superintendent, BAMS, PGDIP, DNYT, CCMC, Jeena Sikho Lifecare Limited Hospital, Derabassi, Punjab, India.⁵Consultant, BAMS, PGDIP, ACLS, CCDN, CAIM, Jeena Sikho Lifecare Limited Hospital, Derabassi, India.⁶Research Associate, BAMS, Jeena Sikho Lifecare Limited, India.***Corresponding Author: Dr. Gitika Chaudhary**

Senior Consultant, General Surgeon, BAMS, PGDIP, PGDGS, MS (Ayurveda), Jeena Sikho Lifecare Limited, India.

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1. ABSTRACT

Chronic liver disease (CLD) encompasses a wide range of hepatic disorders, including cirrhosis, hepatitis, and non-alcoholic fatty liver disease (NAFLD), which are often associated with long-term damage to liver tissue. The global burden of CLD is rising, driven by factors such as viral infections (Hepatitis B and C), excessive alcohol consumption, obesity, and metabolic syndrome. Early stages of CLD may remain asymptomatic, but as the disease progresses, it can lead to liver fibrosis, cirrhosis, liver failure, and hepatocellular carcinoma. Diagnosis is typically based on a combination of clinical symptoms, laboratory tests, imaging studies, and biopsy, while treatment strategies aim to address the underlying cause, slow disease progression, and manage complications. Advances in medical therapies and lifestyle interventions have shown promise in improving patient outcomes, but effective prevention, early detection, and management remain critical for reducing morbidity and mortality associated with CLD. *Ayurveda* views jaundice (*Kamala*) as a disorder of the *raktavahastrotas*, with the liver (*Yakrit*) and spleen (*Pleeha*) being its primary sites. Vitiating *Pitta* is the key factor in its pathogenesis. Modern medicine identifies the liver as a vital organ with a remarkable reserve capacity, where dysfunction only appears after significant damage (75-80% loss of function). Bilirubin, a yellow breakdown product of hemoglobin from aged RBCs, acts as a cellular antioxidant and is key in the pathophysiology of jaundice. Further research is essential to develop novel therapeutic approaches and to better understand the pathophysiology of the disease. Diabetes mellitus is a group of metabolic diseases characterized by persistent hyperglycemia due to defects in insulin secretion, insulin action, or both. Type 2 diabetes occurs when the body either becomes resistant to insulin or doesn't produce enough insulin. *Ayurvedic* literature provides a comprehensive understanding of CLD, including its prognosis, complications, and treatment. *Panchakarma* is an *Ayurvedic* detox therapy that may help manage lifestyle diseases like CLD and diabetes by detoxifying the body, balancing *doshas*, and improving metabolism. Here are the *Panchakarma* methods like *Basti* for CLD treatment. As a result, it was found to improve the target and outcome parameters.

2. KEYWORDS: Chronic Liver Disease (CLD), Jaundice, Diabetes Mellitus, *Prameha*, *Madhumeh*, *Panchakarma Chikitsa*, *Basti*.

1. INTRODUCTION

Chronic liver diseases are conditions that involve progressive destruction and regeneration of the liver parenchyma, leading to functional and structural changes in the form of fibrosis and cirrhosis. Chronic liver disease refers to diseases of the liver which lasts over a period of six months.^[1] It consists of a wide range of liver pathologies which includes inflammation (chronic Hepatitis), reduction of size (Liver cirrhosis), Polycystic

liver disease, and Hepato cellular carcinoma.^[2] It leads to various complications to end stage liver disease and hepatic failure. *Ayurveda* is traditionally skill full and treating liver diseases since centuries and the drug toxicity appears to be less as compared to conventional medicine. *Yakrit* is the root of *Rakta vaha srotos* and *Pitta* is the *mala* (by product) of *Rakta dhatu*. Excess intake of *Madya* (Alcohol) said to be increase *Pitta* and

vitiates *rakta dhatu* and alter the architecture *rakta vaha srotas*.^[3]

Ayurveda Practitioners have been practicing and claimed cure chronic liver diseases successfully.^[4] The presence of jaundice is usually, but not always, a sign of liver disease. The causes of jaundice are many and range from the common to the rare. Vitiating *Pitta* is the main causative factor in the pathogenesis of *kamala*.^[5]

In the disease under consideration, this vitiated *pitta* affects the liver in a major way and shows general manifestations in the body.

India is the global center for diabetes.^[6] The rise in diabetes in India is linked to changing lifestyles, poor diets, lack of exercise, and sedentary habits. Unhealthy eating and physical inactivity are contributing to obesity and insulin resistance, increasing the risk of type 2 diabetes. Promoting healthy lifestyles and early detection is crucial to combating this growing issue.^[7]

2. Types of Prameha

Sr. No.	Kaphaja Prameha	Pittaja Prameha	Vataja Prameha
1.	Udakameha	Ksharameha	Vasameha
2.	Ikshumeha	Kalameha	Majjameha
3.	Sandrameha	Neelameha	Hastimeha
4.	Sandraprasadameha	Lohitameha	Madhumeha
5.	Shuklameha	Manjishthameha	
6.	Shukrameha	Haridrameha	
7.	Sheetameha		
8.	Sikatameha		
9.	Shanairmeha		
10.	Alalameha		

A disturbance in the *doshas* precedes the genesis of various pathological states which results to 20 types of *Prameha* where finally diabetes (*madhumeha*) is one of the chronic type of *Prameha*.

Thus, the primary aim in prevention, diagnosis and treatment of a disease is to detect the degree of vitiation in these *doshas*.

Samprapti Ghataka of Yakrit Vikara in Ayurveda^[9]

- **Dosha** - *Samaan Vata* (Subtype of *Vata*), *Pachak Pitta* (Subtype of *Pitta*).
- **Dushya** (*Pachakagni* (Digestive fire), *Ras* (Plasma) - *Rasdhatu* (Nutrient Fluid).

- **Adhisthaan (location of disease)** - *Amashaya* (Stomach), *Grahani* (Small intestine).
- **Strotas (Annavah)** - The disease involved *Amashaya*, *Grahani* and *Pakwashaya* (large intestine). *Srotas* seem to be the main concern but *Rasavah Strotas* (Plasma channels), which is the first *Ama* (toxin) produced due to *Agni* (digestive fire) may get involved.
- **Dushtiprakar (Type of Disease)** - *Sanga* (Obstruction)
- **Agni** (Digestive fire) - *Mandagni* (Weak Digestion)
- **Marga (Pathway):** *Abhyantara rogamarga* (Internal pathways of disease)

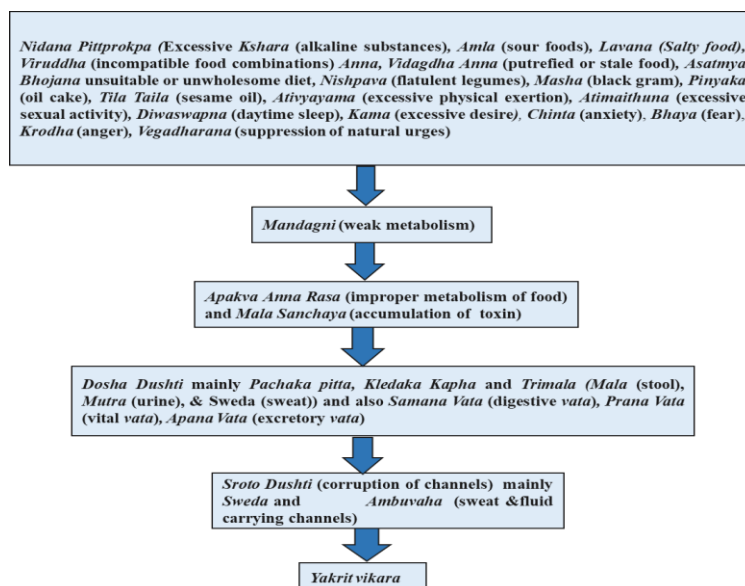


Figure 1: Samprapti of Yakrit Vikara in Ayurveda.

3. CASE REPORT

A 60 year old male patient with K/C/O T2DM since 15 years along with CLD since 2.5 years came to the Jeena Sikho Lifecare Limited Hospital, Derabassi, Chandigarh with the chief complaints of yellow urine, itching rashes, mouth ulcer, pedal edema, loss of appetite and disturbed sleep. He used to consume alcohol which he had stopped 6 months ago. He also had a past history of Jaundice and esophageal varices. He had undergone Endoscopic variceal ligation (EVL) on 02.09.2023. Drug history showed that he was on allopathic medicines. There is no any relevant family history seen for diabetes mellitus.

In regard of diet history of the patient a day before admission, the patient has taken *roti* and tea in breakfast, in lunch he has taken *matar + aloo* with rice and in dinner he has eaten fish with rice. On the day of admission the patient has done breakfast of bread *pakoda* and in lunch he has taken rice with mix veggies.

- **Table 1: A detailed assessment of vital signs on the day of the visit.**

Parameters	Findings
B.P.	110/80 mmHg
Temperature	98°F
P/R	70/min
R/R	18/min
Weight	70 kg
SPO ₂	99%
Sugar	104 mg/dL
Nadi	Vataj Pittaj
Mala	Prakrita
Mutra	Ishata peet varna
Jivha	Niram
Shabda	Spashta
Sparsh	Khara
Akriti	Sthula

The patient was admitted in the IPD of the hospital after proper filling the consent form on 17.07.2024. He was advised for some investigations like CBC, RFT, Serum electrolyte, LFT, AFP, and Hep. C.

- **Condition at the time of Admission on 17.07.2024.**

- Severe weakness
- Itching
- B/L Pedal edema 2°
- Dark Yellowish colored urine
- Disturbed sleep
- Yellowish Discoloration of Skin
- Loss of appetite

- **Table 3: Daily Ayurvedic Medication Schedule.**

Date	Medicine Name	Ingredient	Doses
17.07.2024 – 24.07.2024	Liv DS	Himsra (<i>Capparis spinosa</i>) Kasani (<i>Cichorium intybus</i>) Kakamachi (<i>Solanum nigrum</i>) Arjuna (<i>Terminalia arjuna</i>)	2 Cap. BD (Adhobhakta with koshna jala)

- Mouth ulcer

- **Table 2: A detailed result of investigations done on 17.07.2024.**

1) CBC Report

Parameters	Findings
Hemoglobin (HB)	9.8 g/dL
Total Leucocytes Count (TLC)	6900/cmm
Total RBC count	3.18 Mill/Cumm
Platelet Count	0.68 Lacs/Cumm
PCV/HCT	28.5%
MCV	89.6fl
MCH	30.8pg
MCHC	34.4%

2) RFT Report

Parameters	Findings
Serum urea	37.11 mg/dL
Serum Creatinine	1.61 mg/dL
Serum Uric Acid	9.0 g/dL

3) Electrolyte Report

Parameters	Findings
Sodium (Na ⁺)	136.9 mEq/L
Potassium (K ⁺)	3.55 mEq/L
Chloride (Cl)	105.3 mEq/L

4) Liver Function Test (LFT)

Parameters	Findings
Total Bilirubin	6.99 mg/dL
Direct Bilirubin	3.48 mg/dL
Indirect Bilirubin	3.51 mg/dL
AST (SGOT)	48.42 IU/L
ALT (SGPT)	29.98 IU/L
Alkaline Phosphatase (ALP)	145.54 U/L
Total Protein	7.88 g/dL
Albumin	2.84 g/dL
Globulin	5.04 g/dL
A/G Ratio	0.56

5) Hepatitis C Report

Hepatitis C Virus Antibody (Anti HCV) Rapid: Non-Reactive.

4. Treatment Plan

1) Daily Medication

During IPD treatment the patient was given *ayurvedic* medicines on daily basis.

		Kasamarda (<i>Cassia occidentalis</i>) Biranjaisipha (<i>Achillea millefolium</i>) Jhavuka (<i>Tamarix gallica</i>) Bhringaraja (<i>Eclipta alba</i>) Bhumyaamalaki (<i>Phyllanthus amarus</i>) Punarnava (<i>Boerhaavia diffusa</i>), Guduchi (<i>Tinospora cordifolia</i>), Daruharidra (<i>Berberis aristata</i>), Mulaka (<i>Raphanus sativus</i>), Amalaki (<i>Embelia officinalis</i>), Chitraka (<i>Plumbago zeylanica</i>), Vidanga (<i>Embelia ribes</i>), Haritaki (<i>Terminalia chebula</i>), Parpata (<i>Fumaria officinalis</i>).	
	Yakrit Tonic	Lal Punarnava (<i>Boerhavia diffusa</i>), Safed Punarnava (<i>Boerhavia diffusa</i>), Bala (<i>Sida cordifolia</i>), Atibala (<i>Abutilon indicum</i>), Patha (<i>Cissampelos pareira</i>), Giloy (<i>Tinospora cordifolia</i>), Chitrak (<i>Plumbago zeylanica</i>), Kakoli (<i>Lilium polyphyllum</i>), Vasa (<i>Adhatoda vasica</i>), Nagarmotha (<i>Cyperus rotundus</i>), Ajwain (<i>Trachyspermum ammi</i>), Sonth (<i>Zingiber officinale</i>), Kali Mirch (<i>Piper nigrum</i>), Long (<i>Syzygium aromaticum</i>), Methi (<i>Trigonella foenum-graecum</i>), White Jeera (<i>Cuminum cyminum</i>), Roheda Chhal (<i>Tecomella undulata</i>), Dalchini (<i>Cinnamomum verum</i>), Tejpatta (<i>Cinnamomum tamala</i>), Badi Elaichi (<i>Amomum subulatum roxb</i>), Chotti Elaichi (<i>Elettaria cardamomum</i>), Jaiphal (<i>Myristica fragrans</i>), Nagkesar (<i>Mesua ferrea</i>), Kankol (<i>Piper cubeba</i>), Multhi (<i>Glycyrrhiza glabra</i>), Laliki (<i>Lagenaria siceraria</i>), Mahua (<i>Madhuca longifolia</i>), Shaker , Madhu , Water	20 ml BD (Adhobhakta with samamatra koshna jala)
	Arogya Vati	Giloy (<i>Tinospora cordifolia</i>), Neem (<i>Azadirachta indica</i>), Tulsi (<i>Ocimum sanctum</i>)	2 Tab. BD (Adhobhakta with koshna jala)
	Dhatu Poshak Capsule	Chuna Shudh (Lime), Shankh Bhasam (<i>Turbinella pyrum</i>), Mukta Shukti (Pearl-oyster), Prawal Pishti (<i>Corrallium rubrum</i>), Kapardika (<i>Cypraea moneta</i>), Loh Bhasam (Calcined iron)	½ Tab. BD (Adhobhakta with koshna jala)
	Sama vati	Gokru (<i>Tribulus terrestris</i>), Kaunch (<i>Mucuna pruriens</i>), Shatawar (<i>Asparagus racemosus</i>), Ashwagandha (<i>Withania somnifera</i>), Vidarikand (<i>Pueraria tuberosa</i>), Beej band lal (<i>Sida cordifolia</i>), Akarkara (<i>Anacyclus pyrethrum</i>), Talmakhana (<i>Asteracantha longifolia</i>), Musli (<i>Asparagus adscendens</i>), Aawla (<i>Phyllanthus emblica</i>), Sonth (<i>Zingiber officinale</i>), Jaiphal (<i>Myristica fragrans</i>), Swarn maskshik bhasam (<i>Copper pyrite</i>), Shilajit shudh (<i>Asphaltum panjabinum</i>)	½ Tab. BD (Adhobhakta with koshna jala)
23.07.2024 – 24.07.2024	JS-PLATOJEE	Wheatgrass, Papaya(<i>Carica papaya</i>), Giloy (<i>Tinospora cordifolia</i>)	2 Tab. TDS (Adhobhakta with koshna jala)

○ **Table 4: Allopathic Medicine used in the treatment.**

17.07.2024 – 21.07.2024	1.	Lacti hep syrup	Lactitol (66.67 % w/v)	2 tbsp.
	2.	Maxiliv	Glutathione (500 mg)	1 Tab BD

2) DIP diet^[8]

Let food be the medicine.

“Invoke the divine, before any food or drink consumption”.

Avoid the following

- (i) Wheat
- (ii) Packed food
- (iii) Refined food
- (iv) Dairy food/Animal food

(v) Avoid drinking tea/coffee

(vi) Never eat after 8 PM

In Chew 2 cloves (*loun*) and 2 crushed garlic (*lehsoon*).

Include millets like:

- Foxtail
- Little
- Kodo
- Banyard
- Browntop

○ Table 5 – Diet Chart.

TIME	DIET PLAN
BRUNCH (9.00 AM)	Fruits (Whose seeds cannot be taken out) eg. Pomegranate, Guava, Tomato, Cucumber + Fermented Millet Shake
MORNING SNACKS (11.00 AM)	Red Juice + Almonds (4) (Soaked)
LUNCH (12.30 AM – 2.00 PM)	Alkaline Water:- 3-4 time a day (1 ltr) Coconut Water Turmeric Water Living Water
EVENING SNACKS (04.00 PM)	Green Juice (4.00 pm) 100-150 ml + Soaked Almonds (4)
DINNER (6.00 PM)	Plate-1 – Salad Plate-2 Fermented millets with five different leaves (<i>Dhania</i> , <i>Pudina</i> , <i>Peepal</i> , <i>Kari Patta</i> and <i>Tulsi</i>) can be prepared in <i>chatni</i> form with addition of onion, garlic, tomato and ginger with green chilli.

SPROUTS:

Black grams, white grams, black horse grams (*kulthi*),
Moong whole & peanuts with added onions, *amla*, beetroot,
 Ginger, tomato and lemon and rock salt (minimal) Minimum
 Amount to be consumed = 150 gms

DRINKS:

2 liters of hot water sipping throughout the day, two times DAP tea

DAP Tea

2 cloves, 5 *Ilaichi*, 25 Black Pepper Seeds, 2 Small Finger Length of *Daal Chini*,
 Spoon of *Sauf* with Continuous Pouring of Hot Water Throughout The Day (750 ml per day)

Physical Activity:

60 minutes exercise daily (preferably during sunrise)

Sunlight:

Sit in sunlight for at least 1 hour in the morning and 1 hour in the evening with foot soaked in lukewarm water as advised with chanting of *Mantras*.

3) Lifestyle modification

- Practice deep breathing exercises (*Pranayama*) for 40 mins daily.
- Eat and drink within a bracket of 08 hours (for e.g. If you start your first meal in the morning at 10 AM then finish your dinner by 6 PM).
- Fast once a week on just coconut water.
- 1 glass of Luke warm water added with 1 spoon *haldi* powder, 1 lemon with pinch of black pepper (freshly grated) to be consumed four times a day.
- Perform oil pooling every day.

4) Panchakarma therapy**(1) Shiropichu**

- In this procedure a sterile cotton/gauge soaked with medicated oil (*Bramhi* oil) is kept on the crown of the head by tying with a bandage cloth for a prescribed time.

(2) Shirodhara

- The patient is made to lie down on a table with his palms facing up.
- Massage is done over head with medicated oils (*Bramhi* + *Karpoor* oil) and then the steam of

desired liquids is allowed to flow over the forehead of the patient.

- The session last for about ½ -1 hour.

(3) Matra Basti

- The patient was placed in the left lateral position and a gentle abdominal massage was given to stimulate the body.
- Matra Basti* of 90 ml of *Gandharvastadi Erand Siddha Sneha Basti* which was introduced into the rectum using an enema device.
- The patient retained the oil for 15-20 minutes before resting.

(4) Kashaya Basti

- Also known as *Niruha Basti*.
- Kashaya basti* of 350 ml of *Bhumiamla* + *Guduchi* + *Punarnava* is introduced through rectum.

(5) Patra Pottali Sweda

- A bolus is made from the *ayurvedic* plant leaves and is heated to some extent.

- Firstly, oil is applied on the area that is to be treated and then pressed on those areas for minimum 30 to 60 minutes.
- PPS is done with *Bala Taila*.

either left to dry entirely or partially. The paste was carefully removed after 30 minutes, then a warm water rinse was performed. To maximized the effects, it was advised to rest and eat a light, easily digested diet after therapy.

(6) Lepan over abdomen, legs with Punarnava + Trikatu + Dashmoola

After the patient was in a comfortable supine position, the abdomen was evenly covered with a warm paste. Depending on the purpose of the treatment, the paste was

○ **Table 6: Daily Vitals and Pain scoring during Panchakarma Therapy.**

Date	Weight (kg)	Temp. (°F)	B.P. (mmHg)	Pulse (min.)	Pain (%)	Therapy
18.07.2024	70	98	100/70	76	0	Shiropicchu, Matra Basti, PPS
19.07.2024	69	98	110/70	74	0	Shiroadhara, PPS, Kashaya Basti
20.07.2024	69	98	100/70	70	0	Shiropicchu, PPS, Kashaya Basti
21.07.2024	69	98	110/70	70	0	Shiroadhara, PPS, Matra Basti
22.07.2024	68	98	120/70	66	0	Shiropicchu, Kashaya Basti, PPS
23.07.2024	67	98	110/70	68	0	Shiroadhara, PPS, Matra Basti
24.07.2024	67	98	110/70	74	0	Shiropicchu, PPS, Kashaya Basti

5. RESULTS AND OUTCOMES

○ **Table 7 – Pain Scoring Chart.**

Scale - (0 – No pain & 10 – Unimaginable pain)

Sr.No.	Date	Pain Score (Before)	Pain Score (After)
1.	17.07.2024	4/10 (Distressing)	2/10 (Discomforting)
2.	18.07.2024	2/10 (Discomforting)	1/10 (Very mild)
3.	19.07.2024	3/10 (Tolerable)	0/10 (No Pain)
4.	20.07.2024	1/10 (Very mild)	0/10 (No Pain)
5.	21.07.2024	0/10 (No Pain)	0/10 (No Pain)
6.	22.07.2024	1/10 (Very mild)	0/10 (No Pain)
7.	23.07.2024	0/10 (No Pain)	0/10 (No Pain)

○ **Table 8 – Oedema Scoring Chart.**

Scale - (1°: 2mm depression, barely detectable – Immediate rebound)

(2°: 4mm deep pit – A few seconds to rebound)

(3°: 6mm deep pit – 10 to 12 sec to rebound)

(4°: 8mm very deep pit – >20 sec to rebound)

Sr.No.	Date	Oedema Score
1.	17.07.2024	2°
2.	18.07.2024	2°
3.	19.07.2024	1°
4.	20.07.2024	1°
5.	21.07.2024	0°
6.	22.07.2024	0°
7.	23.07.2024	0°

○ **Table 9 – Itching Scoring Chart.**

Scale - (0 – No itch & 10 – Worst itch)

Sr.No.	Date	Itching Score (Before)	Itching Score (After)
1.	17.07.2024	6/10	6/10
2.	18.07.2024	6/10	5/10
3.	19.07.2024	5/10	4/10
4.	20.07.2024	4/10	2/10
5.	21.07.2024	4/10	1/10
6.	22.07.2024	2/10	0/10
7.	23.07.2024	0/10	0/10
8.	24.07.2024	0/10	0/10

○ **Table 10: Sleep Scoring Chart.**

Scale - (0 – 2: Very bad)

(3 – 4: Bad)

(5 – 6: Disturbed sleep)

(7 – 8: Good – 5 to 6 hrs. sleep)

(9 – 10: Very good – 7 to 8 hrs. sleep)

Sr.No.	Date	Sleep Quality Score
1.	17.07.2024	3/10
2.	18.07.2024	4/10
3.	19.07.2024	3/10
4.	20.07.2024	5/10
5.	21.07.2024	6/10
6.	22.07.2024	7/10
7.	23.07.2024	8/10
8.	24.07.2024	8/10

○ **Table 11 – Blood sugar Chart.**

Sr.No.	Date	Fasting Sugar (mg/dL)	Random Sugar (mg/dL)
1.	17.07.2024	-	-
2.	18.07.2024	104	183
3.	19.07.2024	110	165
4.	20.07.2024	98	142
5.	21.07.2024	82	134
6.	22.07.2024	82	135
7.	23.07.2024	103	140
8.	24.07.2024	96	-

6. Discharge

Patient was admitted with complaints of CLD with jaundice and T₂DM. Useful investigations are done and the patient was managed through *ayurvedic* medicines and *Panchakarma* therapies.

Condition at the time of discharge: Conscious & Oriented, Relief in the earlier symptoms.

Advice: Avoid milk and milk products, avoid packed food, strictly follow dietician's advice. Follow up after 1 month.

○ **Table 12: Medicine after discharge.**

Sr.No.	Medicine	Dose
1.	Liv DS	2 Tab. BD
2.	<i>Yakrit</i> Tonic	20 ml BD
4.	<i>Arogya Vati</i>	2 Tab. BD
5.	<i>Dhatu Poshak</i> Capsule	2 Cap. BD
6.	Cap. PLATOJEE	2 Cap. BD
7.	DS Powder	½ Tsp. HS

○ **Table 13: Investigations done on 23.07.2024 at the time of discharge.**

1) **CBC Report**

Parameters	Findings
Hemoglobin (HB)	10 g/dL
Total Leucocytes Count (TLC)	5600/cmm
Total RBC count	3.18 Mill/Cumm
Platelet Count	0.48 Lacs/Cumm
PCV/HCT	28.6%
MCV	90.1fl
MCH	31.3pg
MCHC	34.6%

2) **Electrolyte Report**

Parameters	Findings
Sodium (Na ⁺)	137.5 mEq/L
Potassium (K ⁺)	4.30 mEq/L
Chloride (Cl)	102.6 mEq/L

3) **Liver Function Test (LFT)**

Parameters	Findings
Total Bilirubin	5.66 mg/dL
Direct Bilirubin	2.45 mg/dL
Indirect Bilirubin	3.21 mg/dL
AST (SGOT)	53.30 IU/L
ALT (SGPT)	32.27 IU/L
Alkaline Phosphatase (ALP)	132.20 U/L
Total Protein	7.57 g/dL
Albumin	2.66 g/dL
Globulin	4.91 g/dL
A/G Ratio	0.54

4) **Fibroscan done on 22.07.2024**

CAP (Fatty liver)	277 dB/m (Grade II: 34 – 66 % fat)
E (Liver Fibrosis)	70.7 kPa (Severe Fibrosis/Cirrhosis)

7. Follow up

Patient is advised to come after 1 month from the date of discharge. Investigation of LFT and Blood sugar level was advised.

○ **Table 14 – Investigations done on 26.08.2024 after 1 month.**

1) **Liver Function Test (LFT)**

Parameters	Findings
Total Bilirubin	4.44 mg/dL
Direct Bilirubin	1.62 mg/dL
Indirect Bilirubin	2.82 mg/dL
AST (SGOT)	82.6 IU/L
ALT (SGPT)	32.8 IU/L
Alkaline Phosphatase (ALP)	97.4 U/L
Total Protein	7.5 g/dL
Albumin	3.0 g/dL
Globulin	4.5 g/dL
A/G Ratio	0.67

2) **Blood Glucose level**

Glucose (Fasting)	86 mg/dL
Glucose (PLBS)	142 mg/dL

Relief in itching, swelling and weakness. Patient is symptomatically stable but require routine monitoring and follow up. Patient is advised to follow proper diet and lifestyle.

Patients visited for 2nd follow up on 29.08.2024 with C/O backache. He was advised the medicine.

- Aarogya Vati* – 2 Tab. BD
- Amla Pittahar Capsule* – 1 OD
- DS Powder – ½ tbs. HS
- GE – Liv Forte – 20ml BD
- Sama Vati* – 2 Tab. BD

8. DISCUSSION

From an *ayurvedic* perspective, chronic liver disease (CLD) is often seen as a result of imbalances in the body's *doshas*, particularly *Pitta* (the energy associated with heat, digestion and metabolism). *Pitta* governs liver function, bile production, and digestion, and when it becomes aggravated, it can lead to various liver conditions.

9. CONCLUSION

Panchakarma therapy, a traditional *Ayurvedic* detoxification and rejuvenation process, plays a significant role in managing chronic liver diseases. It aims to restore balance in the body, improve digestion, and eliminate toxins (*ama*) that contribute to liver dysfunction. Through its holistic approach—including procedures like *Vamana* (therapeutic emesis), *Virechana* (purgation), and *Basti* (medicated enema)—*Panchakarma* can reduce inflammation, enhance liver function, and support the regeneration of liver cells.

In the present case, significant clinical improvements were observed both subjectively and objectively. The patient reported a marked improvement in symptoms: sleep quality improved from 3/10 to 8/10, itching reduced from 6/10 to 0/10, pedal edema subsided from Grade 2 to 0, and pain score decreased from 4/10 to 0/10. Objective liver function markers also improved notably:

- Total Bilirubin reduced from 6.99 mg/dL to 4.44 mg/dL
- Direct Bilirubin reduced from 3.48 mg/dL to 1.62 mg/dL
- Indirect Bilirubin decreased from 3.51 mg/dL to 2.82 mg/dL
- Alkaline Phosphatase (ALP) dropped from 145.54 U/L to 97.4 U/L

Vitals remained stable throughout the treatment period, indicating the safety and tolerability of the integrative approach.

In addition to *Panchakarma*, dietary adjustments, *ayurvedic* medications, and lifestyle modifications played a crucial role in the healing process. Diet, exercise, and medicinal management using plant-based formulations are foundational to Indigenous systems like *Ayurveda*. A well-balanced, liver-friendly diet combined with lifestyle practices such as *Pranayama*, meditation, regular physical activity, yoga, abstinence from alcohol and tobacco, adequate hydration, quality sleep, and periodic detoxification can support liver health and slow the progression of chronic liver disease.

While *Panchakarma* and *Ayurvedic* approaches show promising results in liver disease management, they should be administered under the supervision of qualified healthcare professionals and ideally integrated with conventional medical care for optimal safety and efficacy.

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