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Case Study

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EFFECTIVENESS OF *AYURVEDIC* INTERVENTIONS IN THE MANAGEMENT OF CHRONIC LIVER DISEASE (*YAKRIT VIKARA*): A DETAILED CASE REPORT

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ABSTRACT

This case report is on a 52-year-old male patient diagnosed with chronic liver disease (*Yakrit vikara*), characterized by portal hypertension and persistent ascites. The patient had a medical history significant for type 2 Diabetes Mellitus, managed with medication, but no history of addiction, familial liver disease or prior surgical interventions. Traditional pharmacologic treatments had been utilized without sufficient control of his liver condition, prompting the integration of *Ayurvedic* medicine into his treatment regimen. The objective of this report is to evaluate the efficacy of combining *Ayurvedic* therapies with conventional treatment methods in managing complex liver disorders. The patient underwent a revised treatment plan that included *Ayurvedic* formulations known for their hepatoprotective and detoxifying properties, alongside his ongoing conventional medical treatment. Over the course of treatment from April 21, 2024, to October 6, 2024, notable improvements were documented in clinical and biochemical parameters. Serum bilirubin decreased from 4.19 mg/dL to 1.88 mg/dL, and creatinine levels improved from 1.64 mg/dL to 0.97 mg/dL. Furthermore, the patient's subjective pain assessment showed a reduction from a rating of 8 to 3 on the Numeric Rating Scale. This report underscores the potential benefits of integrating *Ayurvedic* treatments in managing chronic liver disease, suggesting a more holistic approach may enhance patient outcomes, particularly in complex cases where conventional medicine alone does not suffice.

KEYWORDS: *Yakrit vikara*, Chronic Liver Disease, *Ayurvedic* Medicines.

INTRODUCTION

Chronic liver disease, recognized as *Yakrit vikara* in *Ayurveda*, encompasses a spectrum of progressive liver conditions that impair liver function and possess significant health threats worldwide.[1] From a modern medical standpoint, key contributors to chronic liver disease include viral hepatitis, alcohol consumption, non-alcoholic fatty liver disease (NAFLD) and autoimmune hepatitis.[2] These conditions disrupt liver function through the progressive destruction of liver cells, marked by widespread inflammation and fibrosis, commonly leading to cirrhosis.[3] Epidemiologically, chronic liver disease is a prevalent issue with substantial variations globally; it is estimated that approximately 844 million people suffer from chronic liver diseases worldwide, with a mortality rate nearing 2 million deaths per year.[4] In particular, NAFLD affects roughly 25% of the global population, demonstrating the widespread nature of liver health challenges.[5]

Ayurveda, a traditional system of medicine from India, categorizes chronic liver disease under *Yakrit vikara* and attributes most liver disorders to an imbalance in the *Pitta dosha*, which governs metabolic processes in the body.[6] Classical *Ayurvedic* texts elaborates on liver dysfunctions being predominantly due to aggravated *Pitta* combined with lifestyle errors and exposure to toxins.[7] The *Ayurvedic* pathogenesis (*Samprapti ghataka*) includes aggravation of *Pitta dosha* and blockage of liver channels (*srotas*), resulting in tissue inflammation and degeneration.[8]

Treatment approaches vary between *Ayurveda* and conventional medicine, though both aims to mitigate symptoms and prevent progression. Modern treatments may involve medication, lifestyle changes and in advanced cases, liver transplantation. In contrast, *Ayurveda* emphasizes on detoxification, diet regulation and *ayurvedic* remedies. Key herbs like *Bhumyamalaki*

(*Phyllanthus amarus*), *Katuki* (*Picrorhiza kurroa*) and *Haritaki (Terminalia chebula)* are prized for their liver-protective effects and ability to restore balance within the body.[9]

Integrating insights from both modern and traditional practices allows for a comprehensive management strategy for chronic liver disease, leveraging the strengths of each system to enhance patient care and outcomes.

CASE REPORT

Patient History and Information

A 52-year-old male patient presented with chronic liver disease diagnosed 3 years ago. The patient's medical background included Type 2 Diabetes Mellitus, for which he had been under pharmacological treatment. Additionally, the patient was suffering from portal hypertension and persistent ascites with discomfort related to Ascites associated with his liver condition.

Lifestyle and Dietary History: The patient reported a generally balanced diet but acknowledged occasional deviations from diabetic dietary recommendations. He denied any history of alcohol or tobacco use, which are common risk factors for liver diseases. His exercise routine was minimal, primarily due to fatigue and physical discomfort from ascites.

Medication History: The patient's pharmacological regimen included antidiabetic medications (specifically metformin and a sulfonylurea) to manage his Type 2 Diabetes. For his liver condition, he had been prescribed diuretics to manage the ascites and beta-blockers for the portal hypertension. The patient not reported, the use of any *Ayurvedic* medicines or treatments.

Family History: There was no known family history of liver disease, diabetes or other hereditary disorders, suggesting that the patient's liver condition might be predominantly due to non-genetic factors.

Surgical History: The patient had no significant surgical history.

Onset and Disease Progression: The onset of chronic liver disease occurred approximately three years ago when the patient first begun to experience symptoms such as fatigue, abdominal bloating and slight jaundice. Initially, these symptoms were sporadic and mild; however, they gradually intensified over time. Upon medical evaluation, liver function tests indicated abnormal liver enzyme levels, and imaging studies showed signs consistent with cirrhosis and portal hypertension.

Subsequent follow-ups have highlighted a steady progression of the liver disease, marked by worsening ascites requiring frequent therapeutic paracentesis to relieve discomfort. The management of his diabetes was also been complicated by his liver condition, requiring careful adjustment of his diabetes medications to avoid potential hepatotoxicity and manage the pharmacokinetic changes due to impaired liver function.

Given the patient's current clinical scenario—Type 2 Diabetes complicating chronic liver disease and associated complications— a multidisciplinary approach involving a hepatologist, an endocrinologist and a dietician has been recommended. This strategy aims to optimize his metabolic control, manage his liver disease symptoms and slow the progression of liver damage, enhancing his quality of life and potentially prolonging survival.

Vital Parameters

- **Body Mass Index (BMI):** The patient presents with a BMI of approximately 21.9 kg/m^2, suggestive of a normal BMI.
- **Blood Pressure:** BP levels 100/60 mmHg
- **Heart Rate:** 96/minute

Ayurvedic Examination

Table 1: *Ashtavidha Pariksha* (Eight-fold Examination).

Sr. No	Examination	Findings
1.	***Nadi* (Pulse**	*Vata- Pittaja*
2.	***Mutra* (Urine)**	*Ishat peeta*
3.	***Mala* (Stool)**	*Abadha* (Only with churna)
4.	***Jihva* (Tongue)**	*Saam*
5.	***Shabda* (Voice)**	*Spashta*
6.	***Sparsha* (Touch)**	*Anushna sheet*, tenderness in the right hypochondrium upon palpation.
7.	***Drika* (Eyes)**	*Shweta*
8.	***Akriti* (Appearance)**	*Prakrita*

Table 2: *Dashavidha Pariksha* (Ten-fold Examination).

Sr. No	Examination	Findings
1.	*Prakriti* (Constitution):	*Vata Pitta*
2.	*Vikriti* (Imbalance):	*Pittaja*
3.	*Sara* (Tissue Excellence):	*Madhyam*
4.	*Samhanana* (Body Build):	Moderate
5.	*Pramana* (Body Proportions):	Within normal limits.
6.	*Satmya* (Adaptability):	Moderate
7.	*Satva* (Psychological Strength):	*Madhyam*
8.	*Ahara Shakti* (Digestive Strength):	*Madhyam*
9.	*Vyayama Shakti* (Exercise Capacity):	*Moderate*
10.	*Vaya* (Age):	52 yrs

Systemic Examination

- **Cardiovascular:** Normal heart sounds with no murmurs; regular rhythm noted.
- **Respiratory:** Increased effort and mild use of accessory respiratory muscles, likely due to ascites.
- **Abdomen:** Hepatomegaly with an irregular liver edge palpable, splenomegaly and marked ascites confirmed by shifting dullness.
- **Neurological:** Mild cognitive disorientation suggesting early hepatic encephalopathy; attention to mental status changes was crucial.
- **Skin:** Presence of spider angiomas and evidence of pruritus associated with liver dysfunction.

Diagnostic Assessment

Laboratory Results

Complete Blood Count, HbA1C and Liver Function Test were done mentioned in Table 6.

Assessment Parameters Used in this Case Report

1. Subjective Parameters

A. Symptom Severity Assessment

a. CLDQ (Chronic Liver Disease Questionnaire): Assess symptoms and impact on daily life with six dimensions: abdominal symptoms, fatigue, systemic symptoms, activity, emotional function and worry. Scores range from 1 (most severe) to 7 (least severe symptoms) for each category.[10]

B. Pain Scale

a. Numeric Rating Scale (NRS): Patients rate their pain from 0 (no pain) to 10 (worst possible pain). Useful for assessing abdominal pain or discomfort due to ascites.

1. Objective Parameters

1. Physical Examination

- **Child-Pugh Score:** Evaluates bilirubin, albumin, INR, ascites and encephalopathy; Class A (5-6 points: mild), B (7-9 points: moderate), C (10-15 points: severe liver disease).[11]
- **MELD Score:** Calculates based on bilirubin, INR and creatinine; scores predict 3-month mortality risk, ranging typically from 6 to 40.[12]

2. Liver and Renal Function Tests

- **AST/ALT:** Normally <40 U/L; higher levels indicate liver damage.
- **Bilirubin:** Normal total bilirubin is 0.3-1.2 mg/dL.
- **Albumin:** Normal range is 3.5-5.0 g/dL.
- **Creatinine:** Used in MELD scoring, normal range is 0.6-1.2 mg/dL for men.
- **CBC**

THERAPEUTIC INTERVENTION

I. Diet Plan[13]

The dietary guidelines provided by Jeena Sikho Lifecare Limited Hospital included the following key commendations:

a. Foods to be avoided

- Do not consume wheat, refined food, milk and milk products, coffee and tea and packed food.
- Avoid eating after 8 PM.
- During solid consume as small bite and chew 32 times.

b. Hydration

- During water intake, take sip by sip and drink slowly to ensure the amount of water intake each time.
- Drink about 2-3 liters of alkaline water in 3 to 4 times throughout the day.
- Include herbal tea, living water and turmeric-infused water, as part of daily routine.
- Boil 4 liters water & reduce up to 2 liters and consume.

c. Millet Intake

- Incorporate five types of millet into your diet: Foxtail (*Setaria italica*), Barnyard (*Echinochloa esculenta*), Little (*Panicum sumatrense*), Kodo (*Paspalum scrobiculatum*) and Browntop (*Urochloa ramose*).
- Use only steel cook wares for preparing the millets
- Cook the millets only using mustard oil.

d. Meal Timing and Meal Structure

1. Early Morning (5:45 AM): Herbal tea, curry leaves (1 leaf-1 min/5 leaves-5 min) along with raw ginger and turmeric.
2. Breakfast (9:00-10:00 AM): The patient had steamed fruits (Seasonal), steamed sprouts

(according to the season) and a fermented millet shake (4-5 types).

3. Morning Snacks (11:00AM): The patient given red juice (150 ml) and soaked almonds.
4. Lunch (12:30 PM - 2:00 PM): The patient received Plate 1 and Plate 2. Plate 1 had included a steamed salad, while Plate 2 with cooked millet-based dish.
5. Evening Snacks (4:00 – 4:20 PM): Green juice (100-150 ml) along with 4-5 almonds.
6. Dinner (6:15-7:30 PM): The patient served a steamed salad, chutney, and soup, as Plate 1, along with millet *khichdi* as Plate 2.

e. Fasting

- It is advised to observe one-day fasting.

f. Special Instructions

- Express gratitude to the divine before consuming food or drinks.
- Sit in *Vajrasana* (a yoga posture) after each meal.
- 10 minutes slow walk after every meal.

g. Diet Types

- The diet comprises low salt solid, semi-solid and smoothie options.
- Suggested foods included herbal tea, red juice, green juice, a variety of steamed fruits, fermented millet shakes, soaked almonds and steamed salads.

II. Lifestyle Recommendations

(i) Include meditation for relaxation.
(ii) Practice barefoot brisk walk for 30 minutes.
(iii) Ensure 6-8 hours of quality sleep each night.
(iv) Adhere to a structured daily routine.

Medicines used in this Case

Following medicinal Treatment was given to the patient during the admission period.

Table 3: Day 1 – 21/04/2024.

Medications	Dose	Anupana	Duration
Divyashakti Powder - *Trikatu* (a combination typically of *Zingiber officinale*, *Piper nigrum* and *Piper longum*), *Triphala* (comprising *Terminalia chebula*, *Terminalia bellirica* and *Emblica officinalis*), *Nagarmotha (Cyperus rotundus)*, *Vay vidang (Embelia ribes)*, *Chhoti elaichi (Elettaria cardamomum)*, *Tej patta (Cinnamomum tamala)*, *Laung (Syzygium aromaticum)*, *Nishoth (Operculina turpethum)*, *Sendha namak* (rock salt, not an herb but a mineral), *Dhaniya (Coriandrum sativum)*, *Pipla mool (Piper longum* root*)*, *Jeera (Cuminum cyminum)*, *Nagkesar (Mesua ferrea)*, *Amarvati*, *Anardana (Punica granatum* seeds*)*, *Badi elaichi (Amomum subulatum)*, *Hing (Ferula asafoetida)*, *Kachnar (Bauhinia variegata)*, *Ajmod (Apium graveolens)*, *Sazzikhar* (not a herb, typically refers to an alum compound), *Pushkarmool (Inula racemosa)* and *Mishri* (crystallized sugar, not an herb but rather a processed form of sugar cane *Saccharum officinarum*).	½ TSP HS	Lukewarm Water (*Koshna Jala*)	Nishkala (At night)
Amlapittahar Powder - *Shunti* (***Zingiber officinale***), *Maricha* (***Piper nigrum***), *Pippali* (***Piper longum***), *Amalki* (***Emblica officinalis***), *Bibhitika* (***Terminalia bellirica***), *Haritiki* (***Terminalia chebula***), *Musta* (***Cyperus rotundus***), *Sukshmaila* (***Elettaria cardamomum***), *Tvak Patra* (***Cinnamomum tamala***), *Vidanga* (***Embelia ribes***), *Bid Lavana* (commonly known as black salt or ***Kala Namak***, more of a mineral), *Lavanga* (***Syzygium aromaticum***), *Trivrita* (***Operculina turpethum***), *Sharkara* (sugar, derived from ***Saccharum officinarum***).	¼ TSP TDS	Lukewarm Water (*Koshna Jala*)	*Pragbhakta* (Before Meal)
Liv DS Tablet: -*Bhumiamla* (***Phyllanthus amarus***), *Kasani* (***Cichorium intybus***), *Himsra* (***Capparis spinosa***), *Punarnava* (***Boerhavia diffusa***), *Guduchi* (***Tinospora cordifolia***), *Kakamachi* (***Solanum nigrum***), *Arjuna* (***Terminalia arjuna***), *Biranjasipha* (***Achillea millefolium***), *Kasamarda* (***Cassia occidentalis***), *Jhavuka* (***Tamarix gallica***), *Vidanga* (***Embelia ribes***), *Chitraka* (***Plumbago zeylanica***), *Kutki* (***Picrorhiza kurroa***), *Haritaki* (***Terminalia chebula***), *Bhringraj* (***Eclipta prostrata***).	1 Tab BD	Lukewarm Water (*Koshna Jala*)	*Adhobhakta* (After Meal)
Ciro Care Capsule:- *Kutki (Picrorhiza kurroa)*, *Nisoth*	1 Capsule	Lukewarm	*Adhobhakta*

(Operculina turpethum), Kampilak, Patol (Trichosanthes dioica), Makoy (Solanum nigrum), Ajwayan (Trachyspermum ammi), Punarnava (Boerhavia diffusa), Sounf (Foeniculum vulgare), Pudina (Mentha arvensis), Gokhru (Tribulus terrestris), Arjuna (Terminalia arjuna), Rohilek (possibly *Rhodiola rosea, Yakrdari loha* and *Shankh bhasma*	BD	Water (*Koshna Jala*)	(After Meal)
Jalodarhar Vati: - *Punarnava (Boerhavia diffusa), Guggul (Commiphora wightii), Trivrit (Operculina turpethum), Daruharidra (Berberis aristata), Ikshumool* (*Saccharum officinarum*, root of sugar cane), *Haritaki (Terminalia chebula), Bibhitaki (Terminalia bellirica), Amalaki (Phyllanthus emblica),* and *Shilajit* (mineral pitch).	1 Tab BD	Lukewarm Water (*Koshna Jala*)	*Adhobhakta* (After Meal)
Sama Vati:- *Gokru (**Tribulus terrestris**), Kaunch (**Mucuna pruriens**), Shatawari (**Asparagus racemosus**), Ashwagandha (**Withania somnifera**), Vidarikand (**Pueraria tuberosa**), Beej Band Lal (**Sida cordifolia**), Akarkara (**Anacyclus pyrethrum**), Talmakhana (**Hygrophila auriculata**), Musli (**Chlorophytum borivilianum**), Amalaki (**Phyllanthus emblica**), Sonth (*dried ginger, ***Zingiber officinale***), Jaiphal (**Myristica fragrans**), Swarn makshik* (commonly known as chalcopyrite, a mineral compound, **CuFeS2**), *Shilajit shudh* (purified *Shilajit*, not a plant but a mineral pitch).	1 Tab BD	Lukewarm Water (*Koshna Jala*)	*Adhobhakta* (After Meal)
Mutravardhak Vati - *Gokhru (Tribulus terrestris), Guggul (Commiphora wightii), Sonth* (dried ginger, *Zingiber officinale), Kalimirch* (black pepper, *Piper nigrum), Pippali* (long pepper, *Piper longum), Bahera (Terminalia bellirica), Harad (Terminalia chebula), Amla (Emblica officinalis)* and *Motha (Cyperus rotundus)* constitute a diverse array of potent *Ayurvedic* herbs widely revered for their health benefits.	2 Tab BD	Lukewarm Water (*Koshna Jala*)	*Adhobhakta* (After Meal)
Yakritshothhar Vati:- *Punarnava (**Boerhavia diffusa**), Kalimirch (**Piper nigrum**), Pippali (**Piper longum**), Vayavidanga (**Embelia ribes**), Devdaru (**Cedrus deodara**), Kustha (**Saussurea lappa**), Haldi (**Curcuma longa**), Chitrak (**Plumbago zeylanica**), Harad (**Terminalia chebula**), Bahera (**Terminalia bellirica**), Amla (**Phyllanthus emblica**), Danti (**Baliospermum montanum**), Chavya (**Piper chaba**), Indrayav (**Holarrhena antidysenterica**), Pippala Mool (**Piper longum** root), Motha (**Cyperus rotundus**), Kalajira (**Nigella sativa**), Kayphal (**Myrica nagi**), Kutki (**Picrorhiza kurroa**), Nisoth (**Operculina turpethum**), Sonth (*dried ginger, ***Zingiber officinale***), Kakad singhi (**Pistacia integerrima**), Ajwaen (**Trachyspermum ammi**)* and *Mandur bhasam* (iron oxide, but not a plant-based ingredient).	1 Tab BD	Lukewarm Water (*Koshna Jala*)	*Adhobhakta* (After Meal)
Liver Tonic:- *Lal Punarnava (**Boerhavia diffusa**), Safed Punarnava (**Boerhavia diffusa**;* different variety*), Bala (**Sida cordifolia**), Atibala (**Abutilon indicum**), Patha (**Cissampelos pareira**), Giloy* or *Guduchi (**Tinospora cordifolia**), Chitrak (**Plumbago zeylanica**), Kakoli (**Roscoea procera**), Vasa (**Adhatoda vasica**), Nagarmotha (**Cyperus rotundus**), Ajwain (**Trachyspermum ammi**), Sonth (**Zingiber officinale** dried), Kali Mirch (**Piper nigrum**), Long (**Syzygium aromaticum**), Methi (**Trigonella foenum-graecum**), White Jeera (likely **Cuminum cyminum**), Roheda Chhal (could refer to **Tecomella undulata** bark), Dalchini (**Cinnamomum verum**), Tejpatta (**Cinnamomum tamala**), Badi Elaichi (**Amomum**	3 Tsp BD	Lukewarm Water (*Koshna Jala*)	*Adhobhakta* (After Meal)

subulatum), *Chotti Elaichi* (***Elettaria cardamomum***), *Jaiphal* (***Myristica fragrans*** *nutmeg*), *Nagkesar* (***Mesua ferrea***), *Kankol* (***Piper cubeba***), *Mulethi or Licorice* (***Glycyrrhiza glabra***), *Mahua* (***Madhuca longifolia***), and Water (not a herb, substance - **H2O**).			

Table 4: Day 2,3 and 4 – 23/05/2025, 24/06/2024 and 27/07/2024.

Medications	Dose	Anupana	Duration
Divyashakti Powder	½ TSP HS	Lukewarm Water (*Koshna Jala*)	*Nishikala* (At Night)
Amlapittahar Powder	¼ TSP TDS	Lukewarm Water (*Koshna Jala*)	*Pragbhakta* (Before Meal)
Liv DS Tablet	1 Cap BD	Lukewarm Water (*Koshna Jala*)	*Adhobhakta* (After Meal)
Ciro Care Capsules	1 Capsule BD	Lukewarm Water (*Koshna Jala*)	*Adhobhakta* (After Meal)
Sama Vati	1 Tab BD	Lukewarm Water (*Koshna Jala*)	*Adhobhakta* (After Meal)
Jalodarhar Vati	1 Tab BD	Lukewarm Water (*Koshna Jala*)	*Adhobhakta* (After Meal)
Mutravardhak Vati	2 Tab BD	Lukewarm Water (*Koshna Jala*)	*Adhobhakta* (After Meal)
Yakritshothahar Vati	1 Tab BD	Lukewarm Water (*Koshna Jala*)	*Adhobhakta* (After Meal)
Liver Tonic	3 Tsp BD	Lukewarm Water (*Koshna Jala*)	*Adhobhakta* (After Meal)

Table 5: Day 5 – 09/10/2024.

Medications	Dose	Anupana	Duration
Mahaamritam Powder	½ TSP HS	Lukewarm Water (*Koshna Jala*)	*Nishikala* (At Night)
Amlapittahar Powder	¼ TSP TDS	Lukewarm Water (*Koshna Jala*)	*Pragbhakta* (Before Meal)
Liv DS Tablet	1 Tab BD	Lukewarm Water (*Koshna Jala*)	*Adhobhakta* (After Meal)
DR CKD	1 Cap BD	Lukewarm Water (*Koshna Jala*)	*Adhobhakta* (After Meal)
Nephron Plus	1 Cap BD	Lukewarm Water (*Koshna Jala*)	*Adhobhakta* (After Meal)
Jalodarhar Vati	1 Tab BD	Lukewarm Water (*Koshna Jala*)	*Adhobhakta* (After Meal)
Mutravardhak Vati	2 Tab BD	Lukewarm Water (*Koshna Jala*)	*Adhobhakta* (After Meal)
Yakritshothahar Vati	1 Tab BD	Lukewarm Water (*Koshna Jala*)	*Adhobhakta* (After Meal)
Liver Tonic	3 TspF BD	Lukewarm Water (*Koshna Jala*)	*Adhobhakta* (After Meal)

FOLLOW-UP & OUTCOME

After 5 days admission and after the series of *Panchakarma* Treatment and *Ayurvedic* Medicines and a follow-up of 3 months the results that were seen are.

Table 6: Outcomes – Objective Parameters.

Parameters	Pre-Treatment (08/04/2024)	Post-Treatment (23/05/2024)
Complete Blood Count		
Hb	9.3 gm/dl	9.1 gm/dl
TLC	4200 /cumm	4740 /cumm
RBC	3.65 mill/cumm	2.99 mill/cumm
Platelet Count	0.83 Lac/cumm	Lac/cumm
Renal Function Test		
Blood Urea	56.20 mg/dl	38.40 mg/dl
Sr. Creatinine	1.64 mg/dl	0.97 mg/dl
Sr. Uric Acid	5.90 mg/dl	9.61 mg/dl
Liver Function Test		
Sr. Billirubin	4.19 mg/dl	1.88 gm/dl
SGOT	62.10 U/L	47.90 U/L
SGPT	85.02 U/L	25.53 U/L
Alkaline Phosphatase	310.5 U/L	105.30 U/L
Protein	5.81 gm/dl	7.15 gm/dl
Albumin/Globulin Ratio	1.105	1.22
Child Pugh Score	Total Score = 3 (bilirubin) + 1 (albumin) + 2 (INR) + 2 (ascites) + 1 (HE) = 9 points (Class B: Moderate)	Total Score = 1 (bilirubin) + 1 (albumin) + 1 (INR) + 1 (ascites) + 1 (HE) = 5 points (Class B: Mild)
MELD Score	≈21.11 Indicates advanced liver disease with high mortality risk	≈9.59 Indicates less advanced liver disease with lower mortality risk.

The changes in the subjective parameters that were observed are-

Table 7: Outcomes – Subjective Parameters.

Parameters	Pre-Treatment	Post-Treatment
Numeric Rating Scale (NRS) for Pain and Discomfort	8 out of 10 (severe pain and discomfort due to abdominal distension and potential ascites).	3 out of 10 (mild to moderate pain indicating considerable improvement)
Chronic Liver Disease Questionnaire (CLDQ)	**Abdominal Symptoms:** 2 (indicating severe symptoms) **Fatigue:** 2 (severe fatigue) **Systemic Symptoms:** 3 (moderate severity) **Activity:** 3 (moderate restriction in activities) **Emotional Function:** 2 (severe emotional distress) **Worry:** 2 (high level of worry about health)	**Abdominal Symptoms:** 5 (mild symptoms) **Fatigue:** 4 (mild to moderate fatigue) **Systemic Symptoms:** 5 (mild symptoms) **Activity:** 5 (mild restriction in activities) **Emotional Function:** 5 (mild emotional distress) **Worry:** 4 (moderate level of worry about health)

Age / Sex 51 Yrs. Male
Ref. By PAL HOSPITAL
Patient Id 2404080013
Result Reporting 08/04/2024
Contect No.

HAEMATOLOGY

Test Name	Result	Unit	Biological. Ref Range
COMPLETE BLOOD COUNT (CBC)			
HEMOGLOBIN (Hb)	9.3	gm/dl	13.5 - 18.0
TOTAL LEUCOCYTE COUNT (TLC)	4,200	/cumm	4000 - 11000
DIFFERENATIAL LEUCOCYTE COUNT			
NEUTROPHIL	70	%	40 - 75
LYMPHOCYTE	23	%	20 - 45
EOSINOPHIL	05	%	01 - 06
MONOCYTE	02	%	02 - 10
BASOPHIL	00	%	0 - 0
R B C COUNT	3.65	Millions/cmm	4.5 - 5.5
P.C.V / HEMATOCRIT	34.4	%	40 - 54
M C V (Mean Cell Volume)	94.2	fl.	80 - 100
M C H(Mean Corpus Hemogolobin)	25.5	Picogram	27.0 - 31.0
M C H C (Mean Corpus Hb Conc)	27.0	gm/dl	33 - 37
PLATELET COUNT	0.83	Lakh/cmm	1.50 - 4.00
RDW-CV	15.0		11.5 - 14.5

**** End Of Report ****

BEFORE

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Image 1: CBC Pre Treatment.

Testing Done By Wellness Diagnostic Pvt. Ltd

Barcode NO:	30007701	Sample Coll. Date:	23/May/2024 09:53AM
Age: 52 Y	Gender: Male	Receiving ON:	23/May/2024 10:15AM
ReferDoctor:	Dr. Self	Reported ON:	23/May/2024 10:41AM
Sample Collected AT:	DL713		

TEST NAME	RESULT	UNIT	REF. RANGE
WELL PROFILE 15.2			
Complete Blood Count (CBC With ESR) P*			
Primary Sample Type:EDTA Blood			
Haemoglobin (Hb)	**9.1**	g/dl	12.0-17.0
TLC (Total Leucocyte Count)	4.74	10^3 ul	4-11
Differential Leucocyte Count			
Neutrophil (Microscopy Method)	61	%	40-80
Lymphocyte	26	%	20-40
Eosinophils	03	%	1-6
Monocytes	10	%	2-10
Basophils (Microscopy Method)	0.00	%	0-1
ABSOLUTE COUNT			
Absolute Neutrophil Count (Calculated Method)	2.9	x 10^3 /uL	2.0-7.0
Absolute Lymphocyte Count (Calculated Method)	1.2	x 10^3/uL	1.0-3.0
Absolute Eosinophil Count (Calculated Method)	0.14	x 10^3 cells/uL	0.02-0.5
Absolute Monocyte Count (Calculated Method)	0.5	x 10^3 cells/uL	0.2-1
RBC Count	**2.99**	MILLION/CMM	4.5-5.5
Packed Cell Volume	**28.5**	%	36-46
MCV	95.1	FL	83-101
MCH	30.4	PG	27-32
MCHC (Calculated Method)	31.9	g/dL	31.5-34.5
RDW-CV	**17.6**	%	11.6-14

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Image 2: CBC Post Treatment.

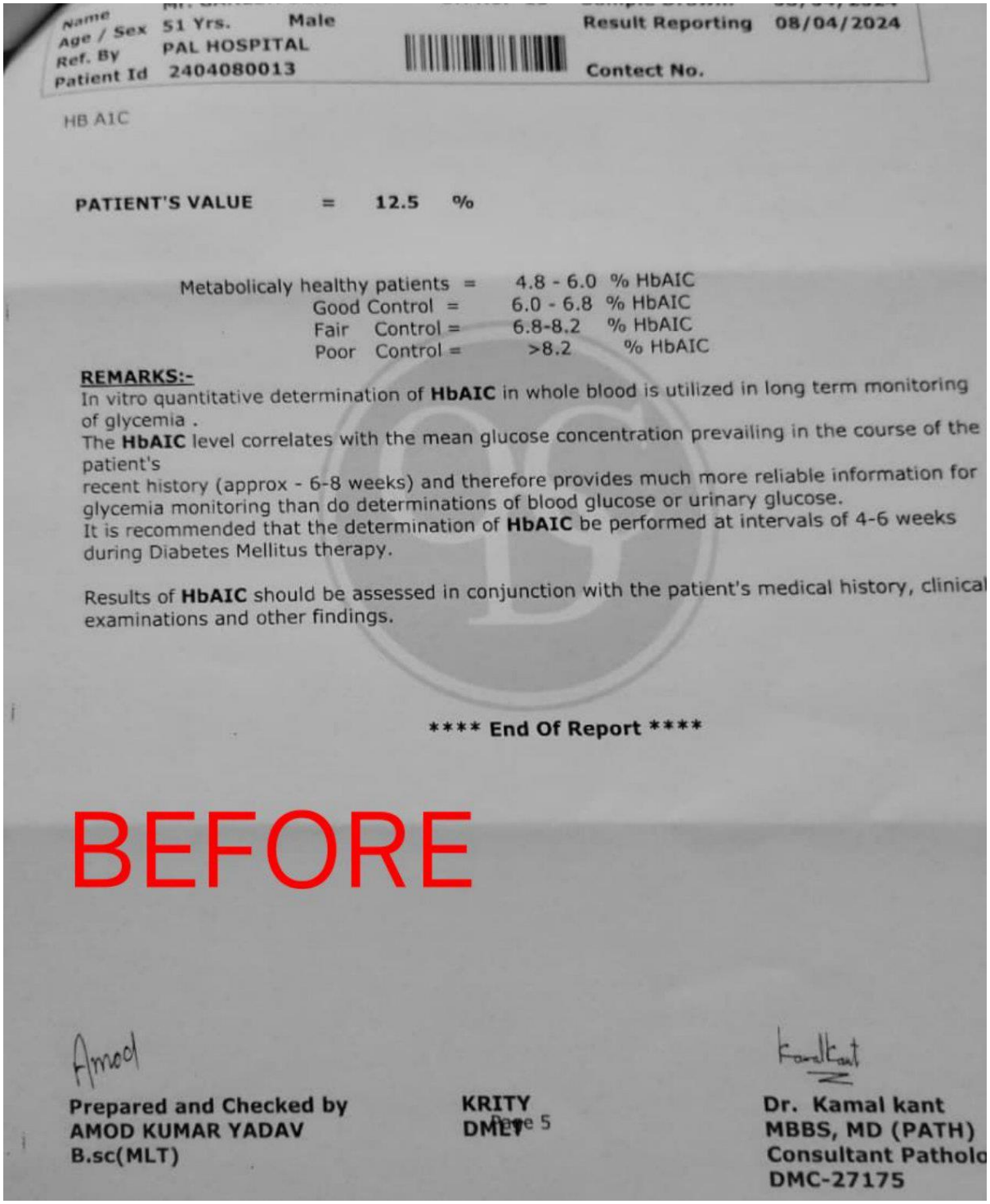

Image 3: HBA1C Pre Treatment.

Testing Done By Wellness Diagnostic Pvt. Ltd

Barcode NO:	30007701	Sample Coll. Date:	23/May/2024 09:53AM
Age: 52 Y	Gender: Male	Receiving ON:	23/May/2024 10:15AM
ReferDoctor:	Dr. Self	Reported ON:	23/May/2024 11:10AM
Sample Collected AT:	DL713		

TEST NAME	RESULT	UNIT	REF. RANGE
WELL PROFILE 15.2			
HbA1c (Glycated Haemoglobin) (HPLC METHOD)	5.9	%	4.8-6.5
ABG	122.63	mg/dl	90-140

90 - 120 mg/dl : Excellent Control
121- 150 mg/dl : Good Control
151 - 180 mg/dl :Average Control
181 - 210 mg/dl : Action Suggested
>211 mg/dl : Panic Value
(Note: Average Blood Glucose value is calculated from HBA1C value and it indicate Average Blood Sugar level over past three months.)

REMARKS
In vitro quantitative determination of HbA1c in whole blood is utilized in long term monitoring of glycemia.The HbA1c level correlates with the mean glucose concentration prevailing in the course of the patient's recent history (approx - 6-8 weeks) and therefore provides much more reliable information for glycemia monitoring than do determinations of blood glucose or urinary glucose. It is recommended that the determination of HbA1c be performed at intervals of 4-6 weeks during Diabetes Mellitus therapy. Results of HbA1c should be assessed in conjunction with the patient's medical history, clinical examinations and other findings. Below 6.0% - Normal Value 6.0% - 7.0% - Good Control 7.0% - 8.0% - Fair Control 8.0% - 10% - Unsatisfactory Control above 10% - Poor Control Method- Fully Automated H.P.L.C. Method using Bidirectional ,NGSP Certified.
Below 6.0% - Normal Value
6.0% - 7.0% - Good Control
7.0% - 8.0% - Fair Control
8.0% - 10% - Unsatisfactory Control
above 10% - Poor Control
Method- Fully Automated H.P.L.C. Method using Bidirectional ,NGSP Certified
90 - 120 mg/dl : Excellent Control
121- 150 mg/dl : Good Control
151 - 180 mg/dl :Average Control
181 - 210 mg/dl : Action Suggested
>211 mg/dl : Panic Value
(Note: Average Blood Glucose value is calculated from HBA1C value and it indicate Average Blood Sugar level over past three months.

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Image 4: HBA1C Post Treatment.

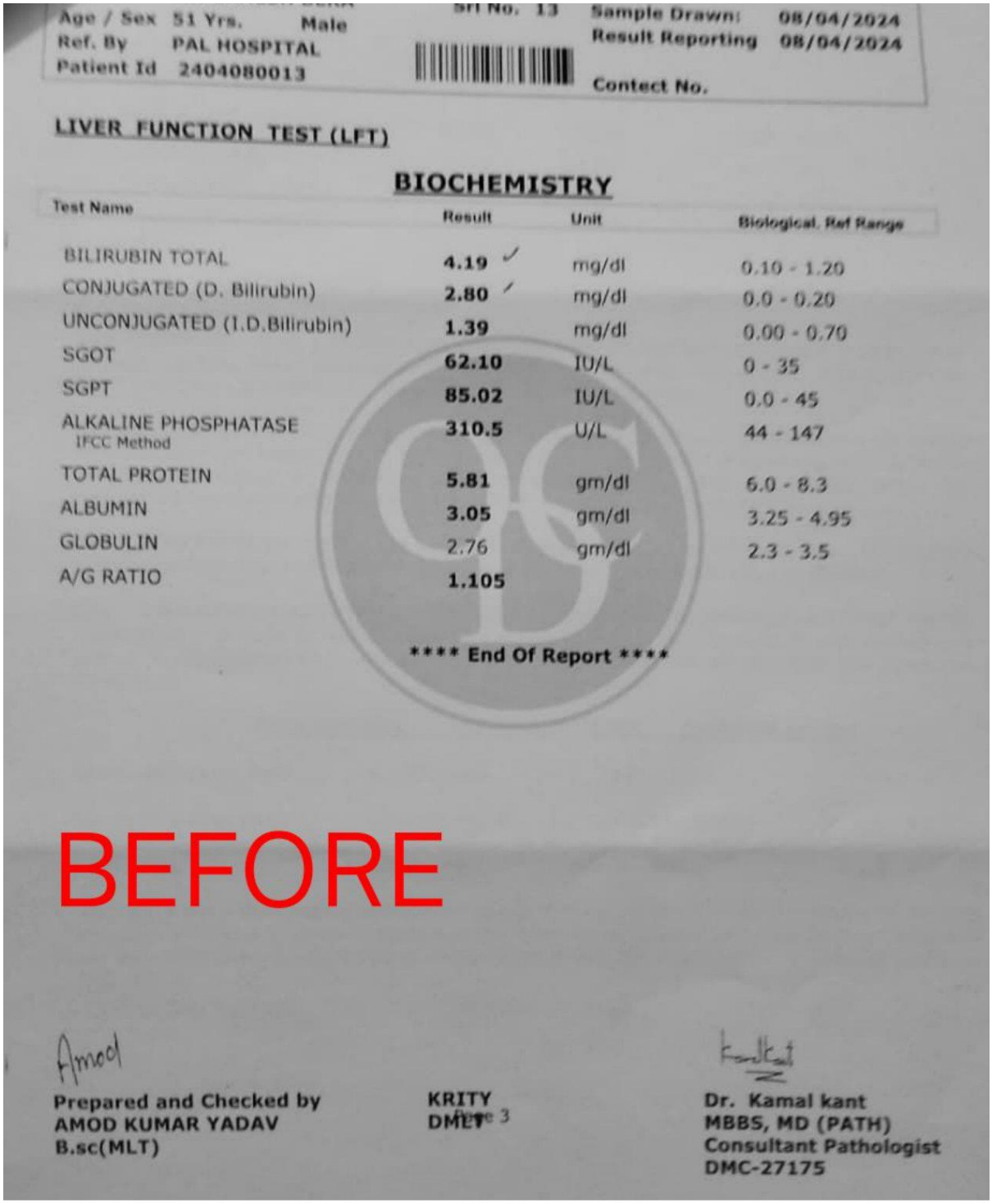

Image 5: LFT Pre Treatment.

Barcode NO:	30007701	Sample Coll. Date:	23/May/2024 09:53AM
Age: 52 Y	Gender: Male	Receiving ON:	23/May/2024 10:15AM
ReferDoctor:	Dr. Self	Reported ON:	23/May/2024 12:19PM
Sample Collected AT:	DL713		

TEST NAME	RESULT	UNIT	REF. RANGE
S.LIVER FUNCTION TEST (LFT)*			
SERUM BILIRUBIN			
Bilirubin Total	**1.88**		0.2-1.2
BILLIRUBIN, DIRECT (DSA Method)	**0.38**	mg/dL	<0.3
Billrubin,Indirect (Calculated Method)	**1.50**	mg/dL	0-0.9
SERUM PROTEINS			
S.TOTAL PROTEIN BIURET	7.15	gm/dL	6.0-8.5
S.ALBUMIN (BCG Method)	3.96	gm/dL	3.2-5.5
Globulin (Calculated Method)	3.25	gm/dL	2.5-3.4
A:G Ratio (Calculated Method)	1.22	Ratio	0.9-2.0
SGOT (IFCC Kinetic Method)	**47.90**	U/L	0-46
SGPT (IFCC Kinetic Method)	25.53	U/L	0-49
S.ALKALINE PHOSPHATASE (DGKC Method)	105.30	IU/L	30-120

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Image 6: LFT Post Treatment.

DISCUSSION

Chronic liver disease encompasses a spectrum of progressive hepatic disorders that can lead to liver dysfunction and ultimately failure. Modern medicine identifies various causes, including viral hepatitis, alcohol-related liver disease and non-alcoholic fatty liver disease, each of which contributes to fibrosis and cirrhosis. The pathophysiology involves inflammation, hepatocyte death and the resultant fibrotic scarring which impairs liver function.

In *Ayurveda*, liver diseases are broadly categorized under '*Yakrit vikara*' and viewed through the lens of *dosha* imbalance, primarily involving *Pitta dosha*, which signifies metabolism and transformation. The *Ayurvedic* pathogenesis or *Samprapti*, of chronic liver disease involves an initial aggravation of *Pitta* due to factors like improper diet, excessive alcohol intake or emotional stress. This aggravation is often coupled with an imbalance of *Kapha* which contributes to blocking and sluggishness, interfering with liver function. Toxins (*Ama*) accumulates, leading to further obstruction (*Srotorodha*) within the liver channels (*Srotas*), culminating in inflammation, tissue damage, and the symptoms seen in chronic liver conditions. Management in *Ayurveda* focuses on pacifying the aggravated *doshas*

through dietary regulation, lifestyle modifications and the use of *ayurvedic* formulations aimed at detoxifying the liver and restoring systemic balance. This holistic approach not only addresses the symptoms but also aims at the root cause of the imbalance, promoting overall health and preventing disease progression.

The mode of action of the formulations used in this disease in order to break the *Samprapti* of the disease were

Divyashakti Powder: This formulation comprises ingredients like *Trikatu*, *Triphala* and various other herbs that are pivotal in harmonizing digestion, enhancing metabolism and promoting the elimination of toxins (*Ama*). *Trikatu*, a blend of *Zingiber officinale*, *Piper nigrum* and *Piper longum*, is known for its ability to stimulate *Agni* (digestive fire), thus helping in the digestion and assimilation of nutrients while eliminating toxins effectively. *Triphala* helps in detoxifying the gastrointestinal tract and rejuvenates liver cells. Herbs like *Nagarmotha* (*Cyperus rotundus*) and *Chitraka* (*Plumbago zeylanica*) works as potent detoxifiers and correct the *Pitta* imbalance, which fundamentally cause inflammation and bile dysfunction in liver disorders.

Amlapittahar Powder: This powder focuses primarily on balancing *Pitta dosha*, which when aggravated, leads to acid reflux, hyperacidity and can contribute to inflammation within the liver. Ingredients such as *Amalaki* (Emblica officinalis) and *Shatavari* (Asparagus racemosus) provide a cooling effect, while spices like *Sonth* (Zingiber officinale) and *Maricha* (Piper nigrum) maintain digestive health, crucial for reducing the hepatic load and enhancing detoxification.

Liv DS Tablet & Ciro Care Capsule: Both these preparations share several common ingredients like *Kutki* (*Picrorhiza kurroa*) and *Kalmegh* (*Andrographis paniculata*), which are historically renowned in *Ayurveda* for their liver-protective and hepatostimulative properties. They supports the liver by enhancing the regeneration of liver cells and are potent anti-inflammatory agents, which helps in reducing the fibrosis and preventing cirrhosis tendencies in chronic liver conditions.

Jalodarhar Vati: Specifically designed for conditions like ascites which often accompany chronic liver diseases, this formulation employs diuretic and detoxifying herbs like *Punarnava* (*Boerhavia diffusa*) and *Guggul* (*Commiphora wightii*). *Punarnava* facilitates the removal of excess fluid, effectively decreasing the burden on the liver, while *Guggul* helps in metabolizing and scavenging the harmful lipids and toxins within the liver tissues.

Sama Vati, Mutravardhak Vati & Yakritshothhar Vati: These formulations target different aspects of liver disorders. *Sama Vati* and *Yakritshothhar Vati* aim directly at enhancing liver function, correcting enzymatic activities and protecting against hepatotoxicity. *Mutravardhak Vati* focuses more on supporting renal functions which are critical in the excretion of metabolic wastes that the liver processes. This is crucial in conditions where the liver's function is compromised, requiring renal support to manage the detoxification effectively.

Liver Tonic: This is generally a supportive formulation meant to enhance liver health through herbs that provide nutritional support, enhance detoxification processes and maintain systemic health which indirectly supports liver function.

Each of these formulations is used based on the patient's specific symptoms and the stage of the disease, aiming to holistically restore balance and function within the body while addressing the root cause as per *Ayurvedic* principles of healing.

Ayurveda provides a comprehensive regimen focusing on detoxification, rejuvenation and the balance of bodily energies to manage and treat liver diseases. Extensive research and clinical evaluations have been conducted to validate the efficacy of these *Ayurvedic* interventions.

One significant study demonstrated how *Ayurvedic* formulations, especially those containing herbs like *Phyllanthus amarus* (*Bhumiamla*) and *Picrorhiza kurroa* (*Kutki*), contributes effectively to improve liver enzymes and overall liver function in patients with chronic liver diseases. This study corroborates traditional uses and recommends further long-term research to establish comprehensive therapeutic protocols.[14]

Another critical aspect of managing chronic liver disease using *Ayurveda* is through dietary regulation. Research indicates that a tailored *Ayurvedic* diet can significantly augment conventional treatment methods, reducing symptom severity and improving liver function as elucidated by Raina et al.[15], where a combination of *Ayurvedic* diet and *ayurvedic* medications notably improved the quality of life in patients suffering from chronic hepatitis.

Furthermore, the use of *Triphala*, a traditional *Ayurvedic* formulation, has been found to have hepatoprotective properties, including preventative effects on liver cirrhosis, especially in cases induced by alcohol. The study by Sharma et al. outlines the biochemical mechanics through which *Triphala* ameliorates oxidative stress and modulates enzyme levels in the liver.[16]

Additionally, the therapeutic approach involving plants like *Punarnava* (Boerhavia diffusa) is another cornerstone in *Ayurvedic* treatment for liver disorders. A clinical trial highlighted its diuretic and anti-inflammatory properties, proving effective in managing symptoms associated with ascites due to liver

cirrhosis.[17]

Lastly, *Guduchi* (*Tinospora cordifolia*), often incorporated in combinations like *Amlapittahar* Powder, has been extensively studied for its immunomodulatory effects beneficial in chronic liver conditions, as discussed by Singh et al., reflecting significant improvements in biochemical markers of liver health in their study subjects.[18]

These references reflect a growing body of scholarly work that supports the integration of *Ayurvedic* principles and formulations into mainstream treatment strategies for chronic liver diseases, affirming their potential to offer a complementary pathway to existing medical practices.

NEED FOR FURTHER RESEARCH

Despite the promising findings regarding *Ayurvedic* treatments for chronic liver disease, further research is critically needed to fully elucidate and validate their efficacy and safety. Specifically, well-designed clinical trials with larger sample sizes and longer follow-up periods are essential to determine the long-term benefits and potential side effects of *Ayurvedic* herbs and formulations. Additionally, research should aim to understand the molecular mechanisms through which these treatments exert their effects, providing a scientific basis for their integration into conventional medical practice. Comparative studies between *Ayurvedic* treatments and standard pharmacological interventions can also offer valuable insights into their relative effectiveness, paving the way for more informed therapeutic choices. Overall, expanding the scope of research in this area will greatly enhance the viability of *Ayurvedic* medicine as a complementary approach in the global management of liver diseases.

CONCLUSION

In conclusion, the case report on a patient with *Yakrit vikara* demonstrated significant improvements post-treatment, as evidenced by substantial changes in laboratory values and patient-reported outcomes. Specifically, the serum bilirubin decreased from 4.19 mg/dL to 1.88 mg/dL, and the serum creatinine levels improved from 1.64 mg/dL to 0.97 mg/dL, reflecting enhanced liver and renal function. Additionally, the Numeric Rating Scale for pain showed a decrease from 8 to 3, indicating a major reduction in the patient's discomfort.

Such numbers not only validate the effectiveness of the treatment plan involving both *Ayurvedic* and conventional methods but also highlight the importance of a comprehensive approach in managing such complex health conditions. Continued follow-ups indicated sustained improvements, with re-assessments at regular intervals showing stable liver function tests and ongoing positive feedback from the patient regarding quality of life, as his Chronic Liver Disease Questionnaire scores improved from low scores (around 2-3) in all categories to higher scores (around 4-5). These outcomes underscore the need for integrated care pathways that harness the strengths of both traditional and modern medical practices to optimize health outcomes in chronic liver disease patients.

REFERENCE

1. Sharma H, et al. Exploration of the *Ayurvedic* understanding of chronic liver diseases and therapeutic strategies. J *Ayurveda* Integr Med., 2021; 12(3): 567-575.
2. Smith BW, et al. Global epidemiology of chronic liver diseases: a critical appraisal. Liver Int., 2020; 40(11): 2593-2603.
3. Mendes FD, et al. Pathophysiology of chronic liver diseases. Annu Rev Pathol, 2019; 14: 451-477.
4. Asrani SK, Devarbhavi H, Eaton J, Kamath PS. Burden of liver diseases in the world. J Hepatol, Jan. 2019; 70(1): 151-171.
5. Younossi ZM, et al. Global epidemiology of nonalcoholic fatty liver disease-Meta-analytic assessment of prevalence, incidence, and outcomes. Hepatology, 2016; 64(1): 73-84.
6. Tripathi BK. *Ayurvedic* concept of Yakrut Vikara (Liver Disorders). J *Ayurveda*, 2018; 9(2): 75-83.
7. Acharya YT. Charaka Samhita, Chikitsasthana. Varanasi, India: Chaukhambha Orientalia, 2017.
8. Frawley D, Ranade S. *Ayurveda*, Nature's Medicine. Twin Lakes, WI: Lotus Press, 2001.
9. Patel SS, et al. Therapeutic effectiveness of herbs on Yakrut Vikara in children: a review. World J Pharm Pharm Sci., 2018; 7(12): 123-132.
10. Younossi ZM, et al. Development and validation of a disease-specific questionnaire to assess patient-reported symptoms of chronic liver disease. Am J Gastroenterol, 1999; 94: 2224-2234.
11. Pugh RNH, et al. Transection of the oesophagus for bleeding oesophageal varices. Br J Surg, 1973; 60(8): 646-649.
12. Kamath PS, et al. A model to predict survival in patients with end-stage liver disease. Hepatology, 2001; 33(2): 464-470.
13. Manish, Chaudhary Gitika, Singh Suyash Pratap, Singh Manjeet, Richa. "Clinical Evaluation of Chronic Kidney Disease Management: Integrating Lifestyle Modification and *Ayurveda*." International Journal of AYUSH, October 2024; 2013: 10. DOI: 10.22159/prl.ijayush.v2013i10.1152
14. Mehta K, et al. Effects of Phyllanthus amarus on liver damage due to chronic liver disease. Journal of Ethnopharmacology, 2010; 130(3): 555-562.
15. Raina K, et al. Integrative treatment approaches in chronic liver disease: A comprehensive review of current literature. World Journal of Gastroenterology, 2018; 24(22): 2338-2360.
16. Sharma P, et al. Hepatoprotective properties of Triphala in liver disorders. *Ayurveda* Journal, 2012; 33(4): 498-505.

17. Patel SS, et al. Clinical assessment of Boerhavia diffusa effects in ascites due to liver cirrhosis. Journal of *Ayurvedic* Medicine, 2011; 1(1): 25-30.
18. Singh RP, et al. Immunomodulatory and therapeutic potentials of *ayurvedic*, traditional/indigenous and ethnoveterinary medicines. Pakistan Journal of Biological Sciences, 2012; 15(16): 754-774.