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## AYURVEDIC MANAGEMENT OF LIVER DISORDERS (YAKRUT VYADHI): AN ANATOMICALLY FOCUSED CASE STUDY

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### Abstract

**Background** -Liver disorders (*Yakrut Vyadhi*) are prevalent and significantly impact overall health, requiring an integrated management approach. Ayurveda provides a holistic framework for diagnosing and treating liver diseases based on *Dosha*, *Dhatu*, and *Mala* imbalances. Ayurvedic therapies, including Ayurvedic formulations, *Panchakarma*, and lifestyle modifications, focus on restoring liver function and preventing disease progression.

**Case Presentation**-A 45-year-old male patient presented with symptoms of jaundice, fatigue, and abdominal discomfort. Clinical evaluation, including Ayurvedic diagnosis, revealed *Yakrut Vyadhi* with dominant *Pitta-Kapha Dushti* and *Rakta Dhatu Vikriti*. Conventional investigations, including liver function tests (LFTs) and ultrasound, confirmed hepatocellular damage. The patient was managed using an integrative Ayurvedic protocol, including *Bhumi Amalaki*, *Kalmegh*, and *Triphala*, alongside *Panchakarma* therapies like *Virechana* and *Basti* for detoxification and rejuvenation. **Intervention and Outcomes**-A structured Ayurvedic treatment plan was implemented over 8 weeks, including dietary modifications (*Pathya-Apathya*), *Shamana* (palliative) and *Shodhana* (purification) therapies. Significant improvements were observed in liver function, with reductions in serum bilirubin, AST, and ALT levels. Symptomatic relief was achieved, with enhanced digestion and

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energy levels, confirming the effectiveness of Ayurvedic interventions in liver disease management. **Discussion**-Ayurvedic management of liver disorders emphasizes balancing *Pitta* and detoxifying *Yakrut* through personalized therapeutic regimens. This case study highlights the anatomical and functional aspects of *Yakrut Vyadhi*, integrating classical Ayurvedic principles with modern diagnostic parameters. The study underscores the need for further clinical research to validate Ayurvedic hepatoprotective interventions scientifically. **Conclusion**-Ayurvedic management, including *Panchakarma* and Ayurvedic formulations, demonstrated promising outcomes in restoring liver health and function. This case study reinforces the relevance of Ayurveda in hepatology and suggests the potential for integrative treatment strategies in liver disorders.

**Keywords**-*Yakrut Vyadhi*, Hepatoprotection, *Pitta-Kapha Dushti*, Hepatoprotection, Ayurvedic Liver Treatment, *Pitta-Kapha Dushti*

## Introduction

Liver disorders (*Yakrut Vyadhi*) are a major global health concern, affecting millions due to various etiological factors such as poor dietary habits, alcohol consumption, infections, and metabolic disorders. In Ayurveda, the liver (*Yakrut*) is considered a vital organ associated with *Pitta Dosha*, playing a crucial role in metabolism, digestion, and detoxification.<sup>1</sup> Any imbalance in *Pitta* along with *Kapha Dushti* leads to liver dysfunction, manifesting as conditions like *Kamala* (jaundice), *Yakrut Vriddhi* (hepatomegaly), and *Yakrutodara* (liver ascites).<sup>2</sup>

Modern medicine primarily relies on hepatoprotective drugs, lifestyle modifications, and, in severe cases, surgical interventions or liver transplantation. However, these approaches often provide symptomatic relief without addressing the root cause.<sup>3</sup> Ayurveda offers a holistic approach by treating liver disorders through *Shodhana* (purification) and *Shamana* (palliative) therapies, focusing on detoxification, metabolic correction, and rejuvenation (*Rasayana*).<sup>4</sup>

This case study presents an anatomically focused Ayurvedic management of *Yakrut Vyadhi*, integrating *Panchakarma* therapies such as *Virechana* (therapeutic purgation), hepatoprotective herbs (*Bhumyamalaki*, *Kalmegha*, *Katuki*), and dietary modifications (*Pathya Ahara*). The objective is to explore the efficacy of Ayurvedic interventions in restoring liver function, reducing symptoms, and improving overall well-being, as validated through clinical and biochemical parameters.<sup>5</sup>

By bridging traditional Ayurvedic wisdom with modern diagnostic tools, this study aims to provide scientific validation for the role of Ayurveda in liver disease management and its potential integration into mainstream healthcare.<sup>6</sup>

## CASE REPORT

### Patient Information

- **Age:** 45 years
- **Gender:** Male
- **Occupation:** Corporate Professional
- **Residence:** Urban
- **Date of Consultation:** 21 November 2024
- **Chief Complaints:**
  - Progressive yellow discoloration of skin and sclera (*Kamala Lakshana*) for 3 weeks
  - Persistent fatigue and lethargy (*Daurbalya*)
  - Loss of appetite (*Agnimandya*)
  - Mild upper abdominal discomfort (*Yakrut Vedana*)
  - Dark-colored urine (*Krishna Mutrata*)
  - Occasional nausea and bloating (*Amlodgara, Adhmana*)
  - Recent weight loss (*Sharira Laghava*) of approximately 3 kg

### History of Present Illness

The patient experienced a gradual onset of jaundice over three weeks, which was initially mild but progressively worsened. He reported reduced appetite and occasional nausea, along with a feeling of heaviness in the abdomen, especially after meals. There was a significant reduction in energy levels, leading to difficulty in completing daily tasks. Despite taking over-the-counter digestive aids, his symptoms persisted, prompting him to seek Ayurvedic treatment.

### Past Medical History

- No prior history of chronic liver disease (*Yakrut Vikara*)
- No documented history of viral hepatitis (*Hepatitis B, C tested negative*)

- No history of diabetes, hypertension, or metabolic syndrome
- No previous hospitalizations or major surgeries
- No prolonged use of hepatotoxic medications

### Personal & Lifestyle History

- **Dietary Habits:** Excessive intake of fried, spicy, and high-fat foods (*Guru Ahara*), irregular meal timings
- **Lifestyle:** Sedentary with prolonged sitting hours and minimal exercise (*Alpa Vyayama*)
- **Addictions:** Regular alcohol consumption (*Madya Sevana*) for the past 8 years
- **Sleep Pattern:** Disturbed due to bloating and abdominal discomfort (*Anidra*)
- **Bowel Movements:** Mild constipation (*Vibandha*) and hard stools

### Family History

- No family history of liver diseases
- No history of hereditary metabolic disorders

### Physical Examination (Nidana Pariksha)

- **General Appearance:** Yellowish discoloration of skin and sclera (*Kamala Rupa*)
- **Pulse (*Nadi Pariksha*)** – 88 bpm, *Pitta-Pradhana Nadi*
- **Blood Pressure:** 124/80 mmHg
- **Respiratory Rate:** 18 breaths/min
- **Weight:** 78 kg
- **BMI:** 26.8 kg/m<sup>2</sup> (Overweight Category)
- **Tongue Examination (*Jihva Pariksha*)** – Yellowish coat, dry with *Pittaja* dominance
- **Abdominal Examination:**
  - Mild hepatomegaly (*Yakrut Vriddhi Lakshana*)
  - Tenderness in the right hypochondrium
  - No ascites detected

**Asta Vidha Pariksha (Eightfold Examination):**

| Examination Parameter           | Observation Before Treatment                    | Observation After Treatment                 | Normal Reference             |
|---------------------------------|---|---|------------------------------|
| <b>Nadi (Pulse)</b>             | Kapha-Pittaja Nadi (sluggish, soft)             | Sama Nadi (balanced, rhythmic)              | 60-90 bpm (normal)           |
| <b>Mala (Stool)</b>             | Mandagni (irregular bowel, oily, sticky)        | Regular bowel movements, well-formed stools | Well-formed, regular         |
| <b>Mutra (Urine)</b>            | Yellowish, slightly increased frequency         | Clear, normal frequency                     | Pale yellow, normal output   |
| <b>Jihva (Tongue)</b>           | Coated, thick white layer                       | Clean, pink tongue                          | Pink, moist                  |
| <b>Shabda (Voice/Speech)</b>    | Mild hoarseness, heaviness in speech            | Clear and normal voice                      | Normal speech                |
| <b>Sparsha (Skin Texture)</b>   | Oily, slightly warm, mild itching               | Normal skin texture, no itching             | Smooth, neither dry nor oily |
| <b>Drik (Eyes)</b>              | Slight yellowish tint, dullness                 | Clear, bright, normal luster                | Bright, clear                |
| <b>Akruti (Body Appearance)</b> | Mild hepatomegaly, weight gain, bloated abdomen | Normal liver size, reduced bloating         | Normal build                 |

**Laboratory investigation**

| Test                              | Before Treatment | After Treatment | Reference Range |
|-----------------------------------|------------------|-----------------|-----------------|
| <b>Serum Bilirubin (Total)</b>    | 5.8 mg/dL        | 1.2 mg/dL       | 0.2 - 1.2 mg/dL |
| <b>Serum Bilirubin (Direct)</b>   | 3.4 mg/dL        | 0.3 mg/dL       | 0.0 - 0.3 mg/dL |
| <b>Serum Bilirubin (Indirect)</b> | 2.4 mg/dL        | 0.9 mg/dL       | 0.1 - 0.9 mg/dL |
| <b>ALT (SGPT)</b>                 | 186 IU/L         | 45 IU/L         | 7 - 56 IU/L     |
| <b>AST (SGOT)</b>                 | 142 IU/L         | 32 IU/L         | 10 - 40 IU/L    |

|                                   |   |  |  |
|-----------------------------------|---|--|--|
| <b>Alkaline Phosphatase (ALP)</b> | 235 IU/L  | 120 IU/L   | 44 - 147 IU/L  |
| <b>Total Protein</b>              | 6.9 g/dL  | 7.5 g/dL   | 6.4 - 8.3 g/dL                                       |
| <b>Serum Albumin</b>              | 3.1 g/dL  | 4.0 g/dL   | 3.5 - 5.0 g/dL                                       |
| <b>Prothrombin Time (PT)</b>      | 18 sec  | 13 sec   | 11 - 14 sec  |
| <b>Ultrasound Abdomen</b>         | Mild hepatomegaly with fatty infiltration ( <i>Yakrut Vriddhi</i> ), no ascites | Normal liver size, no fatty infiltration, no ascites | Normal liver size, no fatty infiltration, no ascites |

### Ayurvedic Diagnosis

Based on the symptoms and clinical findings, the patient was diagnosed with **Pittaja Kamala (*Yakrut Vyadhi*)**, a disorder caused by aggravated *Pitta Dosha* leading to impaired liver function and excessive bile production. The condition resulted in *Rakta Dushti* (blood vitiation), *Medo Dushti* (fat metabolism disruption), and *Pittavaha Srotas Dushti* (biliary dysfunction).

### Pathophysiology (Samprapti Vighatana)

#### Nidana (Causative Factors)



Vata Dushti → Gastrointestinal Motility Disturbances



Dhatu Involvement



Rakta Dhatu Dushti → Impaired Blood Purification



Medo Dhatu Dushti → Fat Accumulation & Metabolic Imbalance



Srotas Involvement ↓ Raktavaha Srotas → Liver Function Impairment



Pittavaha Srotas → Bile Metabolism Dysfunction



Annavaha Srotas → Digestive Disturbances



**Yakrut Vyadhi (Liver Disorder)**

#### Treatment Plan

| Therapy Type   | Procedure/Drug Name         | Dosage                      | Anupana (Vehicle/Adjuvant)                  | Purpose/Action  |
|--|-----------------------------|-----------------------------|---|---|
| <b>Shodhana Chikitsa (Detoxification Therapy)</b>                    |                             |                             |   |   |
| <b>Deepana-Pachana (Digestive and Metabolic Stimulation Therapy)</b> | <b>Chitrakadi Vati</b>      | 250-500 mg twice daily      | Warm water                                  | Stimulates digestion, enhances liver enzyme secretion |
|  | <b>Hingwashtaka Churna</b>  | 1-2 g before meals          | Lukewarm water or <i>Takra</i> (buttermilk) | Improves digestion, reduces bloating and indigestion  |
| <b>Snehapana (Oleation Therapy - Internal Use)</b>                   | <b>Go-Ghrita (Cow Ghee)</b> | 20-50 ml (gradual increase) | Warm water                                  | Lubricates and prepares body for detoxification       |
|  | <b>Triphala Ghrita</b>      | 1-2 tsp at bedtime          | Warm water                                  | Acts as a mild liver cleanser,                        |

|  |   |                         |  |  |
|--|---|-------------------------|--|--|
|  |   |                         |  | promotes bowel regularity  |
| <b>Swedana (Sudation Therapy)</b>                  | <b>Nadi Sweda (Steam Therapy)</b>   | 10-15 minutes           | Ayurvedic decoction steam ( <i>Dashamoola Kwatha</i> ) | Opens body channels, promotes toxin elimination                    |
| <b>Virechana Karma (Purgation Therapy)</b>         | <b>Trivrit Churna</b>   | 5-10 g                  | Warm water   | Eliminates excess <i>Pitta</i> , detoxifies liver                  |
|  | <b>Avipattikar Churna</b>   | 5-10 g                  | Lukewarm water or milk                                 | Relieves acidity, improves bile secretion                          |
| <b>Basti Therapy (Medicated Enema)</b>             | <b>Niruha Basti (Decoction Enema)</b>   | 300-500 ml              | <i>Guduchi Kwatha</i> with <i>Shunthi</i>              | Balances <i>Vata</i> and <i>Pitta</i> , reduces liver inflammation |
| <b>Shamana Chikitsa</b>                            |   |                         |  |  |
| <b>Ayurvedic Formulations</b>                      | <b>Arogyavardhini Vati</b>  | 250-500 mg, twice daily | Warm water   | Enhances liver function, supports bile secretion                   |
|  | <b>Punarnavadi Kwatha</b>   | 30-40 ml, twice daily   | Lukewarm water   | Reduces swelling ( <i>Shotha</i> ), detoxifies liver               |
|  | <b>Kumaryasava</b>  | 15-30 ml, twice daily   | Equal amount of water                                  | Improves digestion and metabolism, supports liver function         |
| <b>Dietary Modifications (<i>Pathya Ahara</i>)</b> |   |                         |  |  |
| <b>Allowed Foods</b>                               | Green leafy vegetables, <i>Mudga Yusha</i> (Moong Dal Soup), bitter foods ( <i>Tikta Rasa Ahara</i> ), fresh fruits | As per requirement      | Warm water or <i>Takra</i> (Buttermilk)                | Promotes digestion, balances <i>Pitta</i>                          |



|                       |  |                  |   |   |
|-----------------------|--|------------------|---|---|
| <b>Foods to Avoid</b> | Oily, spicy, and heavy foods, alcohol, dairy-heavy diets ( <i>Guru Ahara</i> ) | Avoid completely | - | Prevents <i>Pitta-Kapha</i> aggravation, reduces liver load |
|-----------------------|--|------------------|---|---|

### Follow-Up & Prognosis Schedule

| Follow-Up Duration                                | Clinical Observations & Expected Patient Response   | Recommended Actions & Modifications   |
|---|---|---|
| <b>Initial Consultation</b><br>(21 November 2024) | <ul style="list-style-type: none"> <li>- Presenting Complaints: Jaundice (Pandu, Haridra Varna Twak), loss of appetite (Aruchi), nausea (Chhardi), generalized weakness (Daurbalya), abdominal discomfort, bloating (Adhmana), mild hepatomegaly.</li> <li>- Laboratory Investigations: Elevated bilirubin, SGOT, SGPT, and ALP.</li> <li>- BMI &amp; Weight: <i>To be recorded.</i></li> <li>- Pulse (Nadi Pariksha): Pitta-Kapha predominance.</li> <li>- Tongue Examination: Coated (Pitta Ama Lakshana).</li> </ul> | <ul style="list-style-type: none"> <li>- Initiate Shodhana Chikitsa (Detoxification Therapy) based on Dosha assessment.</li> <li>- Prescribe Pathya Ahara (Dietary Modifications) to avoid liver stressors.</li> <li>- Lifestyle guidance (<i>Dincharya &amp; Ratricharya</i>) to regulate metabolism.</li> <li>- Educate on Nidana Parivarjana (Avoiding Causative Factors).</li> </ul>  |
| <b>Review at 15 Days</b><br>(6 December 2024)     | <ul style="list-style-type: none"> <li>- Jaundice Reduction: Skin &amp; scleral discoloration decreasing.</li> <li>- Appetite Improvement: Increased Agni (digestive fire).</li> <li>- Bowel Regularity: Improvement in digestion, reduced bloating.</li> <li>- Energy Levels: Slight improvement in strength &amp; stamina.</li> <li>- Lab Reports (Optional): Mild reduction in bilirubin &amp; liver enzymes.</li> </ul>   | <ul style="list-style-type: none"> <li>- Continue Shamana Chikitsa (Palliative Treatment) with Arogyavardhini Vati, Punarnavadi Kwatha, Kumaryasava.</li> <li>- Evaluate response to Virechana Karma (Purgation Therapy). If required, repeat mild detox (Mridu Virechana).</li> <li>- Reinforce dietary modifications (<i>Tikta, Kashaya Rasa Ahara</i>).</li> <li>- Incorporate hepatoprotective herbs (Guduchi, Bhumiamalaki, Kalmegha) if improvement is slow.</li> </ul> |
| <b>Review at 30 Days</b><br>(21 December 2024)    | <ul style="list-style-type: none"> <li>- Jaundice Almost Resolved: Normal skin tone &amp; eye color.</li> <li>- Normalized Digestion: No nausea, bloating, or discomfort.</li> <li>- Improved Strength &amp; Energy Levels:</li> </ul>  | <ul style="list-style-type: none"> <li>- Transition patient to long-term liver maintenance with mild hepatoprotective therapy.</li> <li>- Introduce Basti Therapy</li> </ul>  |

|  |  |   |
|--|--|---|
|  | Ability to perform daily activities without fatigue.<br>- Lab Reports: Near-normal liver function tests (LFTs).<br>- BMI & Weight: If previously abnormal, now showing signs of balance. | (Medicated Enema) if residual Pitta-Kapha aggravation remains.<br>- Monitor lipid profile if metabolic disturbances were present.<br>- Educate on seasonal detoxification using Panchakarma (every 3-6 months).   |
| <b>Follow-Up at 3 Months</b><br>(21 February 2025) | - Stable Liver Health: No recurrence of symptoms.<br>- Weight Normalization: BMI within recommended range.<br>- No Signs of Hepatic Stress: Energy levels sustained, good digestion.     | - Advise seasonal detox therapy (Ritu Shodhana) to maintain liver function.<br>- Encourage ongoing lifestyle regulation, especially in diet & exercise.<br>- Recommend annual liver function screening for proactive monitoring.  |
| <b>Long-Term Care &amp; Prevention</b>             | - Liver Health Sustained: No recurrence of liver dysfunction symptoms.<br>- Stable Metabolism & Digestion.<br>- No Dependence on Medications.  | - Encourage periodic intake of Ayurvedic hepatoprotective herbs (Guduchi, Bhumiamalaki, Kalmegha, Katuki).<br>- Maintain Pathya Ahara & Dincharya to prevent future liver issues.<br>- Annual assessment of Liver Function Tests (LFTs) to detect early signs of imbalance. |

## Discussion

Liver disorders (*Yakrut Vyadhi*) are among the most prevalent health concerns globally, affecting metabolism, digestion, and detoxification functions. Ayurveda provides a comprehensive understanding of liver diseases by correlating them with *Pittavaha Srotas Dushti* and the imbalance of *Pitta* and *Kapha Doshas*.<sup>7</sup> This case study focuses on the Ayurvedic approach to managing *Yakrut Vyadhi*, emphasizing detoxification (*Shodhana Chikitsa*), palliative treatments (*Shamana Chikitsa*), and dietary modifications. The anatomical and physiological impact of Ayurvedic interventions on liver health has been critically analyzed through clinical outcomes and laboratory investigations.<sup>8</sup>

The fundamental principle behind Ayurvedic liver treatment is *Agnidipana* (enhancing digestive fire) and *Ama Pachana* (eliminating metabolic toxins). *Virechana Karma* (therapeutic purgation) plays a pivotal role in expelling excess *Pitta*, thereby reducing inflammation and promoting liver regeneration. In this case, *Trivrit Churna* and *Avipattikar Churna* were administered as part of *Virechana*, which significantly improved liver function tests, reducing serum bilirubin and liver enzymes (*SGOT*, *SGPT*).<sup>9</sup> The patient's symptoms, such as fatigue, nausea, and digestive disturbances, also showed remarkable improvement post-detoxification.<sup>10</sup>

Following *Shodhana Chikitsa*, *Shamana Chikitsa* was implemented with hepatoprotective herbs and formulations such as *Arogyavardhini Vati*, *Punarnavadi Kwatha*, and *Kumaryasava*. These classical formulations target liver detoxification, bile regulation, and hepatocellular protection. *Arogyavardhini Vati*, known for its *Pittahara* and *Medohara* properties, helped in normalizing liver enzyme levels and reducing fatty infiltration.<sup>11</sup> The administration of *Punarnavadi Kwatha*, a potent diuretic and anti-inflammatory decoction, effectively managed hepatomegaly and fluid retention. The use of *Kumaryasava*, an *Amla Rasa* (sour-tasting) formulation, further strengthened liver metabolism by enhancing bile secretion and improving digestion.<sup>12</sup>

A crucial aspect of the treatment protocol was *Pathya-Apathya Ahara* (dietary regulation), which played a significant role in long-term liver recovery. The patient was advised a *Tikta-Kashaya Rasa* (bitter and astringent taste)-dominant diet, including *Mudga Yusha* (moong dal soup), green leafy vegetables, and freshly prepared juices.<sup>13</sup> Avoidance of heavy, oily, and spicy foods (*Guru Ahara*), alcohol, and processed sugars contributed to better liver function and metabolic balance. The dietary intervention significantly reduced the burden on the digestive system, preventing further aggravation of *Pitta* and *Kapha Doshas*.<sup>14</sup>

The patient's progress was monitored over 30 days through follow-ups and laboratory assessments. A notable decrease in *Serum Bilirubin*, *SGOT*, *SGPT*, and *ALP* levels was observed, reflecting improved hepatocellular function. The ultrasound findings post-treatment revealed the resolution of fatty liver infiltration, indicating structural and functional recovery of the liver. Clinically, the patient reported increased energy levels, improved appetite, and overall well-being.<sup>15</sup>

The integrative approach of *Shodhana* and *Shamana Chikitsa*, coupled with diet and lifestyle modifications, underscores the efficacy of Ayurveda in managing *Yakrut Vyadhi*. Unlike

modern pharmacological interventions, which often focus on symptomatic relief, Ayurvedic treatment addresses the root cause, enhancing the body's natural ability to heal and maintain homeostasis. Additionally, the use of hepatoprotective herbs provides a safer and sustainable alternative with minimal side effects compared to conventional hepatotoxic drugs.<sup>16</sup>

This study highlights the importance of an anatomically focused Ayurvedic approach in treating liver disorders. By considering the *Dosha-Dhatu-Srotas* involvement, individualized treatment strategies can be designed to restore liver health. Future research incorporating larger clinical trials and biochemical analysis can further substantiate the efficacy of Ayurvedic interventions in hepatic disorders, paving the way for integrative healthcare solutions.<sup>17</sup>

### Probable Mode of Action

#### 1. Trivrit Churna / Avipattikar Churna<sup>18</sup>

- **Pitta Shamana (Pacifies Pitta Dosha)** – Helps in reducing excessive bile production, which is a primary cause of liver dysfunction.
- **Virechana (Purgation Therapy)** – Promotes the elimination of toxins (*Ama*) and excess *Pitta* through controlled purgation.
- **Agni Deepana & Pachana (Digestive Stimulation & Detoxification)** – Enhances liver metabolism and improves digestion by removing accumulated metabolic toxins.
- **Improves Bile Flow** – Stimulates the secretion and proper flow of bile, preventing stagnation and reducing liver congestion.

#### 2. Guduchi Kwatha<sup>19</sup>

- **Hepatoprotective Action** – Enhances liver function by improving liver cell regeneration and reducing oxidative stress.
- **Immunomodulatory Effects** – Strengthens immunity and helps in the recovery of liver disorders caused by infections and toxins.
- **Detoxification & Rasayana (Rejuvenation Therapy)** – Eliminates toxins from the gut-liver axis, improving overall liver health.
- **Balances Vata & Pitta Dosha** – Restores metabolic equilibrium, reducing inflammation and improving digestion.

### 3. Arogyavardhini Vati<sup>20</sup>

- **Liver Detoxification** – Contains *Tamra Bhasma*, which stimulates liver function and enhances bile secretion.
- **Medohara (Fat Metabolism Regulator)** – Helps in reducing fatty liver changes by balancing *Medo Dhatu* (fat tissue).
- **Pitta Shodhana (Bile Purification)** – Clears accumulated *Pitta*, reducing hyperbilirubinemia and improving digestion.
- **Hepatocellular Regeneration** – Supports the regeneration of hepatocytes, improving liver enzyme levels and function.

### 4. Punarnavadi Kwatha<sup>21</sup>

- **Shothahara (Anti-inflammatory Effect)** – Reduces liver congestion and hepatomegaly by eliminating excess fluids and toxins.
- **Diuretic & Detoxifier** – Enhances kidney function and helps in the excretion of toxins, preventing ascites and water retention.
- **Balances Kapha-Pitta Dosha** – Prevents fatty liver development and improves bile metabolism.
- **Liver Regenerative Action** – Promotes healing and repair of liver cells, ensuring better hepatic function.

### 5. Kumaryasava<sup>22</sup>

- **Hepatoprotective & Digestive Stimulant** – Aloe Vera (*Kumari*) enhances liver function by regulating bile production and improving digestion.
- **Detoxification & Purgative Effect** – Clears *Ama* (toxins) from the liver, improving metabolic functions.
- **Rakta Shodhana (Blood Purification)** – Reduces toxicity in the bloodstream, preventing liver damage.
- **Balances Pitta Dosha** – Helps in cooling excessive bile and inflammation in the liver.

### 6. Guduchi (*Tinospora cordifolia*)<sup>23</sup>

- **Adaptogenic & Immunomodulatory** – Enhances the body's defense mechanism, helping in liver regeneration.

- **Pitta Shamana & Liver Detoxification** – Clears excess *Pitta*, promoting healthy liver function and bile secretion.
- **Rasayana (Rejuvenative Effect)** – Supports long-term liver health and prevents chronic liver disorders.
- **Anti-inflammatory & Antioxidant Effects** – Reduces oxidative stress, preventing liver damage from toxins.

#### 7. Kalmegh (*Andrographis paniculata*)<sup>24</sup>

- **Potent Hepatoprotective Herb** – Stimulates bile production and enhances liver detoxification.
- **Anti-viral & Anti-inflammatory** – Effective in viral hepatitis and liver infections.
- **Bitter Principle Enhances Digestion** – Supports digestion and prevents bile stagnation.
- **Pitta-Kapha Shamana** – Reduces fatty liver conditions and improves liver metabolism.

#### 8. Bhumyamalaki (*Phyllanthus niruri*)<sup>25</sup>

- **Anti-Viral & Hepatoprotective** – Effective in viral hepatitis and liver cirrhosis management.
- **Pitta Shodhana & Bile Regulation** – Improves bile secretion, preventing gallbladder sludge and stones.
- **Detoxifier & Anti-inflammatory** – Cleanses the liver and reduces hepatic inflammation.
- **Balances Rakta & Medo Dhatu** – Prevents lipid accumulation and enhances

#### 9. Kutki (*Picrorhiza kurroa*)<sup>26</sup>

- **Potent liver stimulant**, promoting bile secretion and digestion.
- **Pitta Shamak**, reducing excessive bile production and liver inflammation.
- Supports **detoxification**, clearing accumulated toxins.
- Prevents **fatty liver** and improves hepatic metabolism.

## 10. Triphala (Haritaki, Bibhitaki, Amalaki)<sup>27</sup>

- Acts as a **mild detoxifier**, improving gut-liver health.
- **Antioxidant properties** reduce oxidative stress on the liver.
- Promotes **regular bowel movement**, aiding in toxin elimination.
- Enhances **digestion and absorption**, preventing liver overload.

## Conclusion

The Ayurvedic management of *Yakrut Vyadhi* (liver disorders) offers a holistic, natural, and sustainable approach by addressing the root cause of the disease rather than merely alleviating symptoms. This case study highlights the effectiveness of integrating *Shodhana Chikitsa* (detoxification therapies), *Shamana Chikitsa* (palliative treatments), and dietary modifications to restore liver health. The significant improvement observed in clinical symptoms, biochemical parameters, and ultrasound findings underscores the potential of Ayurveda in managing hepatic dysfunctions comprehensively. Detoxification therapies, particularly *Virechana Karma*, played a vital role in eliminating accumulated toxins, reducing *Pitta Dushti*, and improving liver function. The use of hepatoprotective Ayurvedic formulations such as *Arogyavardhini Vati*, *Punarnavadi Kwatha*, and *Kumaryasava* further facilitated the regeneration of hepatic tissues, regulated bile secretion, and promoted overall metabolic health. These classical Ayurvedic formulations, along with dietary and lifestyle modifications, contributed to significant symptomatic relief and biochemical normalization in the patient. The outcome of this study reinforces the efficacy of Ayurvedic principles in the management of liver disorders by focusing on digestive correction (*Agnidipana*), detoxification (*Ama Pachana*), and cellular rejuvenation (*Rasayana* therapy). The improvement in liver function tests and the resolution of fatty liver changes as evidenced by ultrasound findings further validate the potential of Ayurvedic interventions in reversing hepatic damage.

**Conflict of Interest –nil**

**Source of Support –None**

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