An Ayurvedic approach in the management of Koshta-Shakhasrita Kamala with special reference to Hepatocellular Jaundice: A Case study

Case Report

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Abstract

Modern lifestyle and advanced technology have given life easier, but this has led to many diseases. In advanced lifestyle irregular eating habits, eating unhealthy foods and eating spicy fast food has become a fashion and alcohol consumption is increasing day by day. All of these factors lead to different disorders. Kamala is one among the diseases which are caused due to excessive intake of sour food, alcohol, unhealthy food and when a person with Panduroga continues intake of Pittakara Aahara then he may develop Kamala. According to modern science, Kamala can be correlated with Jaundice. Clinically the Jaundice is a sign of an ongoing disease process with common signs and symptoms like yellowish discolorations of the skin, mucous membranes, the eyes, urine etc. It is characterized by increase deposition of bile pigments in body fluids and tissues. It is perceptible only when the bilirubin level and its conjugates exceeds 1.5 mg/ 100ml plasma. Here is the case study of a patient who appeared to Parul Ayurved Hospital with the history of oedema over the bilateral lower limbs, heaviness in abdomen and chest region in the last 1 year, fever since 4-5 months and yellowish discolorations of eyes, nails and urine are present. In the present study, the patient was treated with Ayurvedic treatments i.e. Virechana Karma and Shamana Chikitsa.

Key Words: Jaundice, Hepatocellular Jaundice, Kamala, Nitya Virechana, Panchakarma.

Introduction

Liver disease produces a wide range of clinical manifestations. Acute liver disease is more common and jaundice is its manifestation(1). Jaundice refers to the yellowish discoloration of the skin, sclera, mucous membrane and urine. It occurs due to increased bilirubin concentration in the body fluids(2). The non-irron pigment present in the bile is called Bilirubin, normal level of bilirubin in blood is less than 1mg/dl. Excess of bilirubin causes an important clinical condition called Jaundice(3).

Yellowish discoloration of eye balls, skin, face, nails and urine associated with systemic symptoms like loss of appetite, low grade fever, malaise etc. Such clinical condition in Ayurvedic classics is called Kamala(4). Mostly all signs and symptoms of Jaundice are much more similar to Kamala in various aspects.

Due to excessive intake of Ruksha, Sheeta, Guru and Madhura Aahara suppression of Vegas etc. Vata and Kapha aggravates and obstructs Pitta Vahini Srotases located in Yakrit as a consequence Mala Rupa Pitta instead of going into the Antra (Intestines) enters into the blood circulation producing signs and symptoms like yellowness of eyes, skins, nails, face etc(5) leading to Kamala. It is mainly of two types Koshta-Shakhasrita Kamala and Shakhasrita kamala.

Koshtashakhasrita Kamala arises due to excess break down of erythrocytes, and it is also called as Bahupitta Kamala because of increased production of Pitta. Shakhasrita Kamala arises due to intrahepatic cholestasis, here in this type the cause of Kamala is reduced excretion of bilirubin so called Alpipitta Kamala from the body, both types of jaundice are very much close to hemolytic and hepatocellular jaundice of modern medical science respectively. Its causative factors are excessive intake of alcohol, excessive sexual intercourse, intake of sour and salty items, Mrud Bhakshana (soil eating), Divaswapna (day dreaming), intake of Tikshna Aahara, Viruddha Aahara etc(6).

According to Harita, Pandu Roga is of 8 types, viz. Vatika, Patika, Kaphaja, Sannipatika, Mrdbhaksana, Kamala, and Halimaka(7). According to Acharya Susruta, has considered Kamala as separate disease and also he mentioned that it may occurs due to further complications of Panduroga(8). According to Acharya Yagbhuta, has also described Kamala as a separate disease, which is caused by aggravated Pitta, and may occur with or without Pandu-ropa(9). Hence all Acharyas of Ayurveda has given importance to Kamala disease and they also discussed elaborately on its causative factors, types, symptoms and treatment aspects.

In today’s era, industrialization brings a lot of changes in our lifestyle and especially in our food eating habits. Most of the people have become used to regular intake of spicy food day by day and alcohol consumption is also increasing. Hepatocellular jaundice is a particular form of jaundice in which skin, eyes, urine becomes yellowish which indicate excess of bilirubin in blood. An Ayurvedic text has mentioned hepatocellular jaundice as Kostha-Shakha Asraya Kamala.
Case study
A male patient of 50 years old visited Parul Ayurved Hospital Panchakarma-OPD (OPD NO-19028179) on 4/11/2019 with the chief complaints of
• Pedal edema in the last 2 months.
• Heaviness in abdomen and chest in the last 1 year.
• Fever for 4-5 months.
• Yellowish discoloration of eyes, nails and urine for 3 months.
Associated complaints:
• Not feeling hungry
• Feeling of tiredness and weakness.
• Irregular evacuation of stools.

Past history
Patients does not have the history of Hypertension, Diabetes mellitus, Asthma, any Operative procedures and also does not have any family related disorders.

Personal history
Patient having the history of intake of alcohol since last 36 years.

History of Present illness
The patient was normal before 1 year. Gradually he started suffering from Udarakourtavata (heaviness in the abdomen), Uragourtavata (heaviness in the chest region), Twak, Mutra Netra Pittata (yellowish of skin, urine and eyes), Kshudha Mandya (anorexia), Jvara (fever) and Angamarda (fatigue). Patient didn’t take any medicines in the past and the patient appeared in Parul Ayurved Hospital in Panchakarma dept. OPD for treatment and was admitted in Panchakarma dept IPD for better management.

On Examination
General condition: Moderate
Pulse rate: 62/min
BP: 110/70 mm of Hg
RR: 18/min
HR: 70/min

Ashtavidha Pariksha
Nadi: 62/min
Mala: Vibandha
Mutra: peetavarniya
Jhva: Sama
Shabda: Spasha (normal)
Sparsha: Samashitoshna
Druk: Netrapitata
Akruti: Madhyama

Systemic Examination
• Respiratory System: Shape and size of chest normal. Air entry bilaterally equal – clear, no crepitations.
• Cardiovascular System: S1S2 heard. No murmur sound heard.
• Central Nervous System: Patient is conscious, well oriented, memory was good. All superficial reflexes are intact.
• Gastro Intestinal Tract: Pain in epigastric, right hypochondriac and slight pain in right lumbar region.

Samprapti Ghataka
• Dosha: - Pitta
• Dushya: - Raktu, Mamsa
• Srotas: - Rasavaha, Raktavaha, Annavaha, Purishavaha
• Srotodushti: - Sanga, Vimaragamana
• Ama: -Sama
• Udabhava sthana: - Amashaya
• Vyakta sthana: - Netra, Tvaka, Mutra.

Samprapti of Kamala (Etiopathogenesis)

Investigations

<table>
<thead>
<tr>
<th>Table - 1: Specific Investigations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Date</strong></td>
</tr>
<tr>
<td>S.Bilirubin (total)</td>
</tr>
<tr>
<td>S.Bilirubin (direct)</td>
</tr>
<tr>
<td>S.Bilirubin (indirect)</td>
</tr>
<tr>
<td>S.G.P.T.</td>
</tr>
<tr>
<td>S.G.O.T.</td>
</tr>
<tr>
<td>S.ALP</td>
</tr>
<tr>
<td>S.Protien (total)</td>
</tr>
<tr>
<td>Albumin</td>
</tr>
<tr>
<td>Globulin</td>
</tr>
<tr>
<td>Albumin Globulin ratio</td>
</tr>
</tbody>
</table>
After clinical examination and investigations, Patient was diagnosed with [Panchakarma treatment] and [Shamana Aushadhis].

### Table 2: General Investigations

<table>
<thead>
<tr>
<th></th>
<th>Before treatment</th>
<th>During treatment</th>
<th>After treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>04/11/2019</strong></td>
<td><strong>07/11/2019</strong></td>
<td><strong>11/11/2019</strong></td>
<td></td>
</tr>
<tr>
<td>Hb level – 7.1 gm/%</td>
<td>Hb level -7.0 gm/%</td>
<td>Hb level -8.0 gm/%</td>
<td></td>
</tr>
<tr>
<td>ESR -22 mm/1hr</td>
<td>ESR – 34 mm/1hr</td>
<td>ESR – 18 mm/1hr</td>
<td></td>
</tr>
<tr>
<td><strong>Urinary analysis:</strong>&lt;br&gt;Color: pale yellow</td>
<td><strong>Urinary analysis:</strong>&lt;br&gt;Color: deep yellow</td>
<td><strong>Urinary analysis:</strong>&lt;br&gt;Color: pale yellow</td>
<td></td>
</tr>
<tr>
<td>Appearance: 6.0</td>
<td>Specific gravity: 1.030</td>
<td>Appearance: 6.0</td>
<td></td>
</tr>
<tr>
<td><strong>Chemical examination:</strong>&lt;br&gt;Protein: Trace</td>
<td><strong>Chemical examination:</strong>&lt;br&gt;Protein: Nil</td>
<td><strong>Chemical examination:</strong>&lt;br&gt;Protein: Nil</td>
<td></td>
</tr>
<tr>
<td>Glucose: Negative</td>
<td>Glucose: Negative</td>
<td>Glucose: Negative</td>
<td></td>
</tr>
<tr>
<td>Urobilinogen: Normal</td>
<td>Urobilinogen: Normal</td>
<td>Urobilinogen: Normal</td>
<td></td>
</tr>
<tr>
<td>Bilirubin: Positive</td>
<td>Bilirubin: Positive</td>
<td>Bilirubin: Negative</td>
<td></td>
</tr>
<tr>
<td>Ketone: Negative</td>
<td>Ketone: Negative</td>
<td>Ketone: Negative</td>
<td></td>
</tr>
<tr>
<td>Blood: 1+</td>
<td>Blood: ++</td>
<td>Blood: Nil</td>
<td></td>
</tr>
<tr>
<td>Nitrites: Negative</td>
<td>Nitrites: Negative</td>
<td>Nitrites: Negative</td>
<td></td>
</tr>
<tr>
<td><strong>Microscopic examination:</strong>&lt;br&gt;Pus cells: 4-6/HPF</td>
<td><strong>Microscopic examination:</strong>&lt;br&gt;Pus cells: 6-8/HPF</td>
<td><strong>Microscopic examination:</strong>&lt;br&gt;Pus cells: 2-3/HPF</td>
<td></td>
</tr>
<tr>
<td>RBCC: 8-10 /HPF</td>
<td>RBCC: 15-20 /HPF</td>
<td>RBCC: Nil</td>
<td></td>
</tr>
<tr>
<td>Epithelial cells: Absent</td>
<td>Epithelial cells: 1-2</td>
<td>Epithelial cells: 2-3</td>
<td></td>
</tr>
<tr>
<td>Casts: Absent</td>
<td>Casts: Absent</td>
<td>Casts: Absent</td>
<td></td>
</tr>
<tr>
<td>Crystals: Absent</td>
<td>Crystals: Absent</td>
<td>Crystals: Absent</td>
<td></td>
</tr>
<tr>
<td>Bacteria: Absent</td>
<td>Bacteria: Absent</td>
<td>Bacteria: Absent</td>
<td></td>
</tr>
<tr>
<td>Fungal: Absent</td>
<td>Fungal: Absent</td>
<td>Fungal: Absent</td>
<td></td>
</tr>
</tbody>
</table>

### Table 3: Treatment advised

#### 1st Phase (04/11/19 -7/11/19)
1. **Abhyanga and Bashpa Sweda**
2. **Nitya Virechana with Eranda Taila (30ml) and Gomutra (20ml)**
3. **Gokshuradi Guggulu 2-2-2 (A/F)**
4. **Punarnavadi Mandura 2-2-2 (A/F)**
5. **Gomutra Haritaki 3-0-3 (B/F)**
6. **Amalaki Rasayan 2-2-2 (A/F)**
7. **Purnarnava Kashaya Varunadi Kashaya**

1. **Abhyanga and Bashpa Sweda**
2. **Nitya Virechana with Eranda Taila (30ml) and Gomutra (20ml)**
3. **Bhringaraja Ghanavati 2-2-2 (A/F)**
4. **Liv 52 tab 2-2-2 (A/F)**
5. **Gomutra Haritaki 2-2-2 (A/F)**
6. **Kumarasava 15ml-015ml (A/F)**
7. **Phalatrikadi Kashaya Punarnavadi Kashaya**

### Table 4: Day wise treatment advised

#### 1st day
- **1. Abhyanga and Bashpa Sweda**
- **2. Nitya Virechana with Eranda Taila (30ml) and Gomutra (20ml)**
- **3. Gokshuradi Guggulu 2-2-2 (A/F)**
- **4. Punarnavadi Mandura 2-2-2 (A/F)**
- **5. Gomutra Haritaki 3-0-3 (B/F)**
- **6. Amalaki Rasayan 2-2-2 (A/F)**
- **7. Purnarnava Kashaya Varunadi Kashaya**

#### Dose
- 2-2-2 (A/F)
- 2-2-2 (A/F)
- 3-0-3 (B/F)
- 2-2-2 (A/F)
- 100ml-0-100ml

#### Lakshana
- 1. Pedal oedema (++)
- 2. Heaviness in abdomen (++++)
- 3. Irregular of stool (+)
- 4. Loss of appetite (+++)
- 5. Yellowish of urine, eyes and nails (+++)

#### 2nd-5th day
- **1. Abhyanga and Bashpa Sweda**
- **2. Nitya Virechana with Eranda Taila (30ml) and Gomutra (20ml)**
- **3. Gokshuradi Guggulu 2-2-2 (A/F)**
- **4. Punarnavadi Mandura 2-2-2 (A/F)**
- **5. Gomutra Haritaki 3-0-3 (B/F)**
- **6. Amalaki Rasayan 2-2-2 (A/F)**
- **7. Purnarnava Kashaya Varunadi Kashaya**

#### Dose
- 2-2-2 (A/F)
- 2-2-2 (A/F)
- 2-2-2 (A/F)
- 2-2-2 (A/F)
- 100ml-0-100ml

#### Lakshana
- 1. Pedal oedema (+)
- 2. Heaviness in abdomen (++)
- 3. No constipation
- 4. Loss of appetite (+)
- 5. Yellowish of urine, eyes and nails (+++)

#### 6th -7th day
- **1. Abhyanga and Bashpa Sweda**
- **2. Nitya Virechana with Eranda Taila (30ml) and Gomutra (20ml)**
- **4. Liv 52 tab 2-2-2 (A/F)**
- **5. Gomutra Haritaki 3-0-3 (B/F)**

#### Dose
- 2-2-2 (A/F)
- 2-2-2 (A/F)
- 2-2-2 (A/F)
- 15ml-0-15ml (A/F)

#### Lakshana
- 1. Pedal edema absent
- 2. Heaviness in abdomen absent
- 3. Increase of appetite
- 4. Yellowish of urine, eyes and nails +
- 5. No constipation.
**Assessment Criteria**

<table>
<thead>
<tr>
<th>Days</th>
<th>Nitya Virechana</th>
<th>Vega</th>
<th>Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 1</td>
<td>Nitya Virechana with Eranda Taila (30ml) and Gomutra (20ml)</td>
<td>1 vega</td>
<td>Healthy</td>
</tr>
<tr>
<td>Day 2</td>
<td>Nitya Virechana with Eranda Taila (30ml) and Gomutra (20ml)</td>
<td>4 vega</td>
<td>Swelling</td>
</tr>
<tr>
<td>Day 3</td>
<td>Nitya Virechana with Eranda Taila (30ml) and Gomutra (20ml) + Dugdhapana (1.5 lit)</td>
<td>38 vega</td>
<td>Swelling</td>
</tr>
<tr>
<td>Day 4</td>
<td>Nitya Virechana with Eranda Taila (30ml) and Gomutra (20ml) + Dugdhapana (1 lit)</td>
<td>27 vega</td>
<td>Swelling</td>
</tr>
<tr>
<td>Day 5</td>
<td>Nitya Virechana with Eranda Taila (30ml) and Gomutra (20ml) + Dugdhapana (1 lit)</td>
<td>4 vega</td>
<td>Swelling</td>
</tr>
<tr>
<td>Day 6</td>
<td>Nitya Virechana with Eranda Taila (30ml) and Gomutra (20ml) + Dugdhapana (1 lit)</td>
<td>18 vega</td>
<td>Swelling</td>
</tr>
<tr>
<td>Day 7</td>
<td>Nitya Virechana with Eranda Taila (30ml) and Gomutra (20ml) + Dugdhapana (1 lit)</td>
<td>14 vega</td>
<td>Swelling</td>
</tr>
</tbody>
</table>

**Table 5: Details of Nitya Virechana**

**Table 6: Pedal edema(38)**

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Grading</th>
</tr>
</thead>
<tbody>
<tr>
<td>No edema</td>
<td>0</td>
</tr>
<tr>
<td>Slight edema</td>
<td>1</td>
</tr>
<tr>
<td>No visual distortion</td>
<td>2</td>
</tr>
<tr>
<td>Disappear rapidly</td>
<td>2</td>
</tr>
<tr>
<td>Somewhat deeper pitting</td>
<td>3</td>
</tr>
<tr>
<td>No readily detectable distortion</td>
<td>3</td>
</tr>
<tr>
<td>Disappears in 10-15 sec</td>
<td>4</td>
</tr>
<tr>
<td>Pit is noticeable deep</td>
<td>4</td>
</tr>
<tr>
<td>May last &gt;1 min</td>
<td>4</td>
</tr>
<tr>
<td>Dependent extremity looks fuller and swollen</td>
<td>4</td>
</tr>
<tr>
<td>Pit is very deep</td>
<td>4</td>
</tr>
<tr>
<td>Last as long as 2-5 min</td>
<td>4</td>
</tr>
<tr>
<td>Dependent extremity is grossly distorted</td>
<td>4</td>
</tr>
</tbody>
</table>

**Table 7: Heaviness of abdomen**

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Grading</th>
</tr>
</thead>
<tbody>
<tr>
<td>No distention of abdomen</td>
<td>0</td>
</tr>
<tr>
<td>Occasionally feeling distention of abdomen</td>
<td>1</td>
</tr>
<tr>
<td>Daily after intake of food up to 1 hour with mild distention of abdomen</td>
<td>2</td>
</tr>
<tr>
<td>Distention of abdomen up to 1-3 hour after intake of food.</td>
<td>3</td>
</tr>
<tr>
<td>Moderate distention of abdomen up to 6 hours after intake of food.</td>
<td>4</td>
</tr>
<tr>
<td>Severe distention of abdomen up to more than 6 hours after intake of food.</td>
<td>5</td>
</tr>
</tbody>
</table>

**Table 8: Constipation**

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Grading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stool passes as per normal scheduled</td>
<td>0</td>
</tr>
<tr>
<td>Passes stool with strain, sometimes takes purgatives.</td>
<td>1</td>
</tr>
<tr>
<td>Passes stool more than 24 hours, frequently takes purgatives.</td>
<td>2</td>
</tr>
<tr>
<td>Passes stool after gap of 1 day, normal purgatives does not work</td>
<td>3</td>
</tr>
</tbody>
</table>

**Table 9: Aruchi(39)**

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Grading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Willing towards all Bhooya padarth</td>
<td>0</td>
</tr>
<tr>
<td>Unwilling towards some specific Ahara but less than normal</td>
<td>1</td>
</tr>
<tr>
<td>Unwilling towards some specific rasa i.e. Katu/Amla/Madhura/food</td>
<td>2</td>
</tr>
<tr>
<td>Unwilling for food but could take the medicine</td>
<td>3</td>
</tr>
<tr>
<td>Unwilling towards unliking foods but not to the other</td>
<td>4</td>
</tr>
<tr>
<td>Totally unwilling for meal</td>
<td>5</td>
</tr>
</tbody>
</table>

**Table 10: Results**

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Before Treatment</th>
<th>During Treatment</th>
<th>After Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pedal edema</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Heaviness of abdomen</td>
<td>4</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Irregular of stools</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Loss of appetite</td>
<td>3</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Yellowish of urine, nails and eyes</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
of Swedana. Snehana and Swedana are the major pre-operative procedure which should be performed before any Shodhana because the entire Shodhana Karma depends upon the proper mobilization of doshas from Sakha to Koshta. This is achieved only with the help of Snehana and Swedana (18).

**Nitya Virechana**

Yakrit is the Mula Sthana of Rakta (19), Raktapitta has Ashraya-Ashrayi Sanbandha (mutual interdependence), and hence for elimination of vitiated Pitta dosha- Virechana is the best treatment (20). Different Acharya has been mentioned Virechana as the best treatment for Kamala. Eranda taila and Gomutra was given in present study for Virechana purpose. Acharya Charaka has considered Eranda Taila as the best Virechana Dravya (21), and Gomutra is having the properties of Kashaya, Ushna, Katu, Tikta with Lavana as a secondary taste, light and it can also be useful as a purgative. It is indicated in Krimi, Shopha, Udarashoola, and Pandu, aggravation of Kapha and Vata, Gulma etc (22). The Virechana procedure helps to remove the excess of stereoibilinogen and ultimately helps in reducing hyperbilirubinemia and ultimately jaundice. Nitya Virechana thus helps to remove the excess bile from the body.

**Amalaki Rasayana**

The main content of this drug is Amalaki churna mixed with Amalaki Swarasa, honey, ghee, pippali Churna and sugar. Though all the amla rasa are said to enhance Pitta, Amalaki is the exception being Pitta Shamaka (23). Amalaki Rasayana is mainly used for Dhatushpoana (nourishment of the tissue). The drug has no significant effect on the levels of serum proteins fractions, yet it raises the total protein level and increases the body weight (24).

**Gokshuradi Guggulu**

The main ingredients of this compound are Gokshura, Guggulu, Triphala Trikatu etc and it is one of the compound preparation which is “Mutrala” (diuretics) as well as “Shothahara” (25). Gokshura the main ingredient is known for its Rasayana effect, especially on Mutravaha Srotas. Guggulu another main ingredient is also Rasayana and it has Lekhana effect and it is Tridoshahara (26). It has action on mutravaha Srotas and has excellent jantughna property. It can reduce pain during micturition and it can maintain the health of urinary system.

**Punarnava Mandura**

The ingredients are Punarnava, Trivrit, Shunthi, Pippali etc added along with double quantity of Mandura and 8 times of Gomutra. This drug is mainly indicated in Pandu, Shopha, Udar, Anaha, Sula etc. It is tridoshahara especially Kaphapitta shama, rakta prasadana, mutrala, panduhara, yakrt balyam, shophahara etc. It has a best result in Pandu associated with sopha, garbhini pandusopha and yakrt janya sopha. It has mainly action on rakta dhatu, hrdaya, vrrka, yakrt, antra etc. It has special action on liver as...
well as Pitta dosha. It helps in proper excretion of mala from the blood/ helps to decrease elevated serum creatinine, cholesterol and other detoxins from the blood and enhances blood circulation (27).

**Gomutraharitaki (28)**
The main ingredients of this drug are Gomutra, Haritaki, Hrivera, Mishi and Kusha. This drug mainly possessed Katu, Titka rasa, laghu and ruksha guna and Ushna Veerya. Acharya Charaka has explained Kamala under Raktrapradoshaja vikara, Raktaavaha Srotas will be affected. Gomutra haritaki helps in relieving the symptoms and it mainly act on Dushita pitta and also helps in eradication of Rakta dushti. It is also acted on Yakrit dushti (liver dysfunction) as Gomutra haritaki is having action on liver it regulates liver functioning and also in relieving Bahupitta Kamala.

**Varunadi Kwatha (29)**
The ingredients of Varunadi kwatha possess properties like Chedana (Removing the vitiated Dosha), Bhedana (Breaking of accumulated Dosha), Lekhana (Cleaning of vitiated Dosha), Tridoshaghna (Pacifying all three Dosha), Mutrala (diuretic in action), Anulomana (correcting the vitiated Vata Dosha) etc., which helps significantly in Mutrashamari (Urinary Calculi) treatment. The Vatahumoloma, Shothahara and Mutrala properties helps to relieve pain and Shotha (swelling). As Varunadi Kwatha works on Kapha dosha and Vata dosha, it also increases Pitta dosha, which means it produces heat in the body, which means it increase the digestive fire and improves metabolic activities in the body etc. Fatty liver disease is mainly related to the obesity in most of the cases. With the similar reason, Varunadi kwatha reduces fats from the liver and improves liver functions (30).

**Punarnavadi Kwatha (31)**
Punarnava Kwatha is mainly indicated in Shotha (swelling), Pandu roga (anemia) etc. So the patient had all these symptoms hence this kwatha was prescribed which has shown a significant result.

**Kumarasava (32)**
The main ingredient of this formulation is Aloevera. It is indicated Mutrakrchra, Asmari, Pandu, Hdroga, Rakta dusti, Yakritvikara, Plihavrdhii etc. Its action is Tridoshahara, Anulomana, Raktak prasadana, Balya, Mutrala etc. Loha and Swarnamakshika bhasma are present. It also has properties like sanjita kapha hara, improve quality of pachaka pitta. It also helps in proper secretion of yakt pitta.

**Liv 52 Tablet (33)**
It is one of the formulations which has been used widely for liver strengthening. It is mainly used to prevent Cirrhosis of liver, protect liver from alcohol related dysfunction, jaundice, anemia, loss of appetite etc.

**Phalatrikadi Kwatha (34)**
This formulation has been mentioned in the context of Pandu and Kamala in Chakradatta, Sarangdhara Samhita, Yogaratnakara. Phalatrikadi Kwatha mainly having the contents which are predominantly used in the treatment of Koshthashrita Kamala/ Hepatocellular Jaundice. This drugs mainly possessed Tikta, Kashaya rasa predominant, Madhura vipaka and Tridoshahara. So, these are the most effective and efficient to pacify the Pitta dosha, which is the main cause of many liver disorders.

**Bhiringaraja Vati (35)**
The main ingredient of this formulation is Bhiringaraja, its, having the properties of Shotrahara, Vrina Shodhana, Vrina Ropana, Vedana Shapana. Bhiringaraja Vati mainly act on Yakrit, in which it acts as Pittarechaka and Amapachana property.

**Dugdhapanca**
The cow’s milk possesses qualities like Madhura, Sheeta, Mrudu, Snigdha, Sandra, Slakshna (36). Milk also alleviates Vata and Pitta dosha by the above properties. The cow’s milk also acts as a Rasayana, Tarpaka, Akladakara, Buddh prabodhaka and Sara etc (37). Cow’s milk also acts as a Virechana dravya in excess quantity in Mrudu and Madhyama Kosha.

**Conclusion**
In Kamala, Pitta dosha is vitiated and for the treatment of Kamala, Acharya has considered Virechana Karma as the best treatment for the elimination of vitiated of Pitta Dosha from the body. This case is a documented evidence for the successful management of Kamala (Jaundice) with Panchakarma procedures along with Shamana Aushadhis. In this case we got very effective results with Virechana Karma in the form of Nitya Virechana. So, it can be concluded that Nitya Virechana is also as effective as classical Virechana in the management of Kamala. Nitya Virechana can be choice of treatment for Kamala instead of classical Virechana. The success of this case helped to increase hope of the patients towards Ayurveda.

**References**

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