

# An Ayurvedic approach in the management of *Koshta-Shakharshita 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 discolourations 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 discolourations 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-iron 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*.

*Koshthashakhasrita 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 *Alpapitta 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*, *Paitika*, *Kaphaja*, *Sannipatika*, *Mrd-bhaksanaja*, *Kamala*, and *Halimaka*(7). According to *Acharya Susruta*, has considered *Kamala* as separate disease and also he mentioned that it may occur due to further complications of *Panduroga*(8). According to *Acharya Vagbhata*, has also described *Kamala* as a separate disease, which is caused by aggravated *Pitta*, and may occur with or without *Pandu-roga*(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 *Koshta-Shakha Asraya Kamala*.

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## 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 *Udaragouravata* (heaviness in the abdomen), *Uragouravata* (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  
*Jihva:* Sama.  
*Shabda:* Spashta (normal)  
*Sparsha:* Samashitoshna  
*Druk:* Netrapitata  
*Akruti:* Madhyama

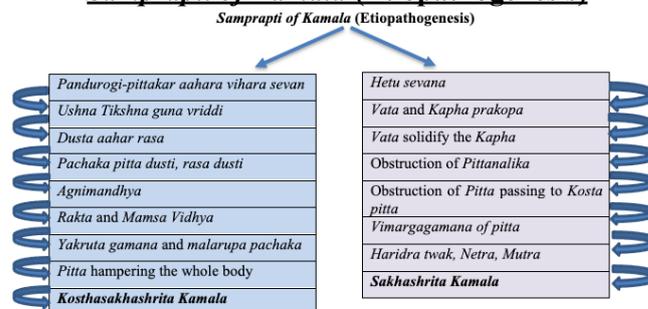
## Systemic Examination

- **Respiratory System:** Shape and size of chest normal. Air entry bilaterally equal – clear, no crepitations.
- **Cardiovascular System:** S<sub>1</sub>S<sub>2</sub> 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:* - Rakta, Mamsa
- *Srotas:* - Rasavaha, Raktavaha, Annavaha, Purishavaha
- *Srotodushti:* - Sanga, Vimargagamana
- *Ama:* -Sama
- *Udabhava sthana:* - Amashaya
- *Vyakta sthana:* - Netra, Tvaka, Mutra.

## Samprapti of Kamala (Etiopathogenesis)



## Investigations

Table -1: Specific Investigations

Date	Before treatment 04/11/2019	During treatment 07/11/2019	After treatment 11/11/2019
S.Bilirubin (total)	4.1 mg/dl	3.0 mg/dl	2.5 mg/dl
S.Bilirubin (direct)	1.5 mg/dl	1.6 mg/dl	1.4 mg/dl
S.Bilirubin (indirect)	2.6 mg/dl	1.4 mg/dl	1.1 mg/dl
S.G.P.T.	66 U/L	51 U/L	35 U/L
S.G.O.T.	112 U/L	90 U/L	79 U/L
S.ALP	187 U/L	189 U/L	196 U/L
S.Protein (total)	5.9 gm/dl	5.2 gm/dl	6.2 gm/dl
Albumin	2.0 gm/dl	2.0 gm/dl	2.2 gm/dl
Globulin	3.9 gm/dl	3.2 gm/dl	7.1 gm/dl
Albumin Globulin ratio	0.51	0.62	0.54

**Table 2: General Investigations**

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

After clinical examination and investigations Patient was diagnosed with *Kamala* (Jaundice) and advised the patient to undergo both *Panchakarma* treatment and *Shamana Aushadhis*.

**Table 3: Treatment advised**

1 <sup>st</sup> Phase (04/11/19 -7/11/19)	2 <sup>nd</sup> Phase (08/11/2019 -11/11/2019)
1. <i>Abhyanga</i> and <i>Bashpa Sweda</i> 2. <i>Nitya Virechana</i> with <i>Eranda Taila</i> (30ml) and <i>Gomutra</i> (20ml) 3. <i>Gokshuradi Guggulu</i> 2-2-2 (A/F) 4. <i>Punarnavadi Mandura</i> 2-2-2 (A/F) 5. <i>Gomutra Haritaki</i> 3-0-3 (B/F) 6. <i>Amalaki Rasayana</i> 2-2-2 (A/F) 7. <i>Punarnava Kashaya</i> <i>Varunadi Kashaya</i>	1. <i>Abhyanga</i> and <i>Bashpa Sweda</i> 2. <i>Nitya Virechana</i> with <i>Eranda Taila</i> (30ml) and <i>Gomutra</i> (20ml) 3. <i>Bhringaraja Ghanavati</i> 2-2-2 (A/F) 4. <i>Liv 52 tab</i> 2-2-2 (A/F) 5. <i>Gomutra Haritaki</i> 2-2-2 (A/F) 6. <i>Kumarasava</i> 15ml-015ml (A/F) 7. <i>Phalatrikadi Kashaya</i> <i>Punarnavadi Kashaya</i>

**Table 4: Day wise treatment advised**

Day	Drugs	Dose	Lakshana
1 <sup>st</sup> day	1. <i>Abhyanga</i> and <i>Bashpa Sweda</i> 2. <i>Nitya Virechana</i> with <i>Eranda Taila</i> (30ml) and <i>Gomutra</i> (20ml) 3. <i>Gokshuradi Guggullu</i> 4. <i>Punarnavadi Mandura</i> 5. <i>Gomutra Haritaki</i> 6. <i>Amalaki Rasayana</i> 7. <i>Punarnava Kashaya</i> and <i>Varunadi Kashaya</i>	2-2-2 (A/F) 2-2-2 (A/F) 3-0-3 (B/F) 2-2-2 (A/F) 100ml-0-100ml	1.Pedal oedema (++) 2.Heaviness in abdomen (++++) 3.Irregular of stool (++) 4.Loss of appetite (+++) 5.Yellowish of urine, eyes and nails (++)
2 <sup>nd</sup> -5 <sup>th</sup> day	1. <i>Abhyanga</i> and <i>Bashpa Sweda</i> 2. <i>Nitya Virechana</i> with <i>Eranda Taila</i> (30ml) and <i>Gomutra</i> (20ml) 3. <i>Gokshuradi Guggullu</i> 4. <i>Punarnavadi Mandura</i> 5. <i>Gomutra Haritaki</i> 6. <i>Amalaki Rasayana</i> 7. <i>Punarnava Kashaya</i> and <i>Varunadi Kashaya</i>	2-2-2 (A/F) 2-2-2 (A/F) 3-0-3 (B/F) 2-2-2 (A/F) 100ml-0-100ml	1.Pedal oedema (+) 2.Heaviness in abdomen (++) 3.No constipation 4.Loss of appetite (+) 5.Yellowish of urine, eyes and nails (++)
6 <sup>th</sup> -7 <sup>th</sup> day	1. <i>Abhyanga</i> and <i>Bashpa Sweda</i> 2. <i>Nitya Virechana</i> with <i>Eranda Taila</i> (30ml) and <i>Gomutra</i> (20ml) 3. <i>Bhringaraja Ghanavati</i> 4. <i>Liv 52 tab</i> 5. <i>Gomutra Haritaki</i> 6. <i>Kumarasava</i> 7. <i>PhalatrikadiKashaya</i> and <i>Punarnavadi Kashaya</i> ,	2-2-2 (A/F) 2-2-2 (A/F) 2-2-2 (A/F) 15ml-0-15ml (A/F) 80ml (BD)	1.Pedal edema absent 2.Heaviness in abdomen absent 3.Increase of appetite 4.Yellowish of urine, eyes and nails + 5.No constipation.

**Table 5: Details of Nitya Virechana**

Days	Nithya Virechana	Vega	Symptoms
Day 1	1.Nitya Virechana with Eranda Taila (30ml) and Gomutra (20ml)	1 vega	-
Day 2	1.Nitya Virechana with Eranda Taila (30ml) and Gomutra (20ml)	4 vega	B o w e l regular
Day 3	1.Nitya Virechana with Eranda Taila (30ml) and Gomutra ( 2 0 m l ) + Dugdhapana (1.5 lit)	38 vega	Heaviness of a b d o m e n decreased.
Day 4	1.Nitya Virechana with Eranda Taila (30ml) and Gomutra ( 2 0 m l ) + Dugdhapana (1 lit)	27 vega	Heaviness of a b d o m e n decreased. Increased appetite.
Day 5	1.Nitya Virechana with Eranda Taila (30ml) and Gomutra ( 2 0 m l ) + Dugdhapana (1 lit)	4 vega	Heaviness of a b d o m e n decreased. Increased appetite.
Day 6	1.Nitya Virechana with Eranda Taila (30ml) and Gomutra ( 2 0 m l ) + Dugdhapana (1 lit)	18 vega	Heaviness of a b d o m e n decreased. Increased appetite. Pedal edema reduced. Yellowish of nails, urine and eyes reduced.
Day 7	1.Nitya Virechana with Eranda Taila (30ml) and Gomutra ( 2 0 m l ) + Dugdhapana (1 lit)	14 vega	Heaviness of a b d o m e n decreased. Increased appetite. Pedal edema absent. Yellowish of nails, urine and eyes reduced.

**Assessment Criteria**

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

Symptoms	Grading
-No edema	0
- Slight edema - No visual distortion - Disappear rapidly	1
- Somewhat deeper pitting - No readably detectable distortion - Disappears in 10-15 sec	2
- Pit is noticeable deep - May last >1 min	3
- Dependent extremity looks fuller and swollen - Pit is very deep - Last as long as 2-5 min	4
- Dependent extremity is grossly distorted	

**Table 7: Heaviness of abdomen**

Symptoms	Grading
No distention of abdomen	0
Occasionally feeling distention of abdomen	1
Daily after intake of food up to 1 hour with mild distention of abdomen	2
Distention of abdomen up to 1-3 hour after intake of food.	3
Moderate distention of abdomen up to 6 hours after intake of food.	4
Severe distention of abdomen up to more than 6 hours after intake of food.	5

**Table 8 Constipation**

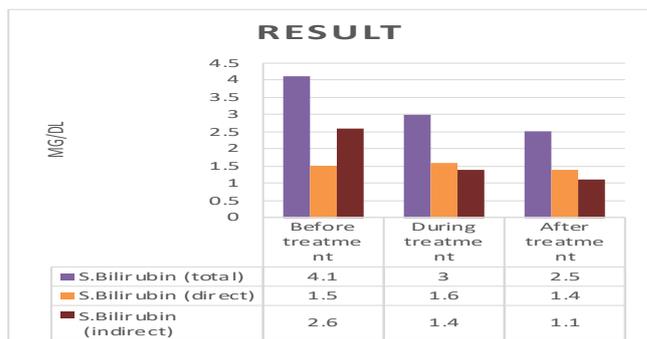
Symptoms	Grading
Stool passes as per normal scheduled	0
Passes stool with strain, sometimes takes purgatives.	1
Passes stool after more than 24 hours, frequently takes purgatives.	2
Passes stool after gap of 1day, normal purgatives does not work	3

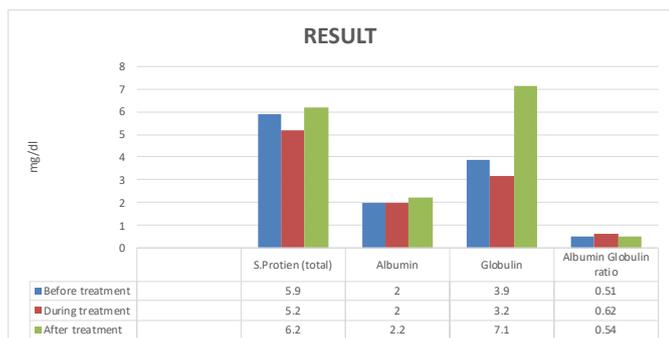
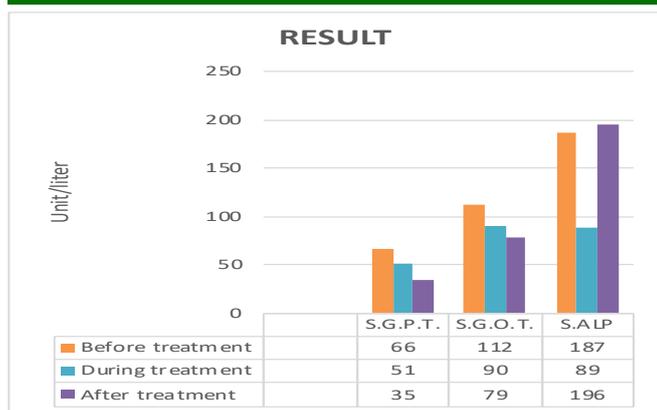
**Table 9: Aruchi(39)**

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

**Table 10: Results**

Symptoms	Before	During	After
	Treatment		
Pedal edema	2	1	0
Heaviness of abdomen	4	2	0
Irregular of stools	2	0	0
Loss of appetite	3	1	0
Yellowish of urine, nails and eyes.	3	2	1





## Discussion

*Kamala* (Jaundice) is mainly caused due to excessive alcohol intake, excessive intake of *Amla* and *Lavana rasa dravya* (10). Due to frequently intake of *Pittakara Aahara* (spicy and hot food) it leads to vitiation of *Pitta dosha* and *Virechana* is the first line of treatment for *Pittadushti* along with *Shamana Chikitsa*. In the present study, the patient is having the history of intake of alcohol in the last 36 years. *Kamala* can be correlated with Jaundice in modern system of medicine. According to *Acharya Charaka* the main line of treatment for *Kamala* is *Virechana* (11). In *Astanga Hrudaya Chikitsa Sthana* and *Bhaishajya Ratnavali* the main line of treatment for *Kamala* is also *Virechana*, and also in present study the patient was advised with *Nitya Virechana* for 8 consecutive days.

## Abhyanga

*Abhyanga* is an important therapeutic method and is most commonly used in *Panchakarma* therapy for both healthy and those with disease<sup>12</sup>. It involves therapeutic considerations such as *Dosha*, *Dhatu* and *Prakruti* (13). It prevents ageing process and helps nourishes the *Dhatu* and increase the strength of the individual. It also very useful to overcome sleeplessness and other mental ailments (14). *Abhyanga* with *Moorhita tila taila*, and *Tila taila* is considered best for imparting strength (15). It is the therapy which provides the body with *Snigdghata* as well as makes the vitiated *Doshas* easily expelled from the body (16).

## Sweda

*Swedana* means Sudation therapy, which helps to liquefy the vitiated *Dosha* that have spread throughout the micro channels of the body (17). In the present study, *Ushnajala Snana* was given in the form

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), *Rakta-pitta* 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 stercobilinogen 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 *Dhatuposhana* (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 *Tridhoshahara* (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*, *Udara*, *Anaha*, *Sula* etc. It is *tridosahara* especially *Kaphapitta shamana*, *rakta prasadana*, *mutrala*, *panduhara*, *yakrt balyam*, *shophahara* etc. It has a best result in *Pandu* associated with *sopha*, *garbhini pandu/sopha* and *yakrt janya sopha*. It has mainly action on *rakta dhatu*, *hrdaya*, *vrkka*, *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 *Kushta*. This drug mainly possessed *Katu*, *Tikta rasa*, *laghu* and *ruksha guna* and *Ushna Veerya*. *Acharya Charaka* has explained *Kamala* under *Raktapradoshaja vikara*, *Raktavaha 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 *Mutrashmari* (Urinary Calculi) treatment. The *Vatanulomana*, *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 *Aloe vera*. It is indicated *Mutrakrechra*, *Asmari*, *Pandu*, *Hrdroga*, *Rakta dusti*, *Yakritvikara*, *Plihavrddhi* etc. Its action is *Tridoshahara*, *Anulomana*, *Rakta 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 *yakrt 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*, *Yogaratanakara*. *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.

#### Bhringaraja Vati (35)

The main ingredient of this formulation is *Bhringaraja*, its, having the properties of *Shotrachara*, *Vrana Shodhana*, *Vrana Ropana*, *Vedana Sthapana*. *Bhringaraja Vati* mainly act on *Yakrit*, in which it acts as *Pittarechaka* and *Amapachana* property.

#### Dugdhapana

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*, *Ahladakara*, *Buddhi prabodhaka* and *Sara* etc (37). Cow's milk also acts as a *Virechana dravya* in excess quantity in *Mrdu* and *Madhyama Koshta*.

#### 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*.

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**Conflict of interest:** None.

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