

# Kamala: A Review Based on Ayurvedic and Modern Perspective

Dr. T. Jyotshna<sup>1</sup>, Dr. Geeta Kanchan<sup>2</sup>, Dr. Ch. Ramadevi<sup>3</sup>, Dr. Mahesh.M<sup>4</sup>

<sup>1</sup>PG Scholar,

<sup>2</sup>Assistant Professor, Department of Ayurveda Samhita and Siddhanta,

<sup>3</sup>I/C, Principal and I/C HOD, PG Dept. Of Ayurveda Samhita and Siddhanta,

<sup>4</sup>PG Scholar, Department of Ayurveda Samhita and Siddantha, Dr. B.R.K.R. Govt. Ayurvedic College & Hospital, Erragadda, Hyderabad, Telangana India - 500038.

## Abstract:

*Kamala* is a significant disease mentioned in Ayurvedic literature which closely resembles jaundice in modern medical science, it is considered as consequence of *Pandu Roga* and caused due to aggravation of *Pitta Dosh*a associated with *Raktha Dushti*, it is characterized by yellowish discoloration of eyes, nails and skin, different types of *Kamala* are mentioned like *Shakasritha Kamala*, *Koshtasritha Kamala* etc., Jaundice, is a condition caused by an obstruction in elimination of bilirubin which is the byproduct of hemoglobin metabolism, resulting in its accumulation in the blood. It is caused due to many factors involving liver, pancreas, bile ducts etc., The symptoms like yellowish discoloration of skin, sclera etc., are seen. this review article describes the causes, pathophysiology, signs and symptoms of *Kamala* from Ayurveda and modern point of view.

**KEYWORDS:** *Kamala*, Jaundice, Liver

## Introduction:

*Ayurveda*, the ancient system of medicine offers comprehensive knowledge about various diseases, their classifications, Pathogenesis, symptoms, complications, among these *Kamala* is a significant condition described in classical Ayurvedic texts. *Charaka Samhita* mentions *Kamala* as a disease occurring due to consequence of *Panduroga* when associated with *Pitta Prakopa Nidana*.<sup>1</sup> *Sushruta* describes *Kamala* as a disease caused by sudden consumption of excessive sour foods during the advanced stages of *Panduroga*, identifying it as a specific stage<sup>2</sup> of the condition, on the other hand *Astanga Hrudaya* recognizes *Kamala* as a distinct disease, it can occur with or without *Panduroga*<sup>3</sup>

In modern medical science *Kamala* is closely associated with Jaundice, as both exhibit similar symptoms such as yellowish discoloration of skin, sclera, pale stools, fatigue etc. Jaundice is categorized into three types: Pre hepatic, Hepatocellular and obstructive Jaundice<sup>4</sup> each with distinct causative factors and characteristics, *Ayurveda* also identifies various types of *Kamala*, including *Shakashrita Kamala*, *Koshtasrita*, varying on their *Nidana*, *Samprapthi*, *Lakshana*. *Koshta* is considered as *Maha Srotas* and *Shaka* means *Rakthadi Dhatus*. Gaining knowledge from both Ayurvedic and modern perspectives of a disease provides comprehensive understanding and valuable insights for effective treatment.

### Materials and Methods:

- *Charaka Samhita* with *Ayurveda Deepika* commentary of *Acharya Chakrapani*
- *Sushruta Samhita* with *Nibandha Sangraha* commentary of *Shri Dalhanacharya*
- *Astanga Hrudaya* with commentary of *Sarvanga Sundara* of *Arunadatta*
- Relevant Articles published in national and international journals
- Text book of Davidson's principles and practice of Internal Medicine

### Types of Kamala:

According to *Charaka*:<sup>5</sup> *Shakashritha/Alpa Pitta Kamala*, *Koshtashritha/Bahu Pitta Kamala*, *Kumbha Kamala*, *Halimaka*

According to *Sushruta*:<sup>6</sup> *Kamala*, *Kumbha*, *Halimaka*

According to *Astanga Hrudaya*:<sup>7</sup> *Shakasritha*, *Koshtasritha*, *Kumbha Kamala*, *Halimaka*

### *Koshtasrita Kamala Nidana*:<sup>1</sup>

*Pitta Kara Ahara* and *Vihara* i.e excessive intake of *Amla rasa dravya*, *Maricha*, *Kanjika Madhya*, *Apathya Ahara* etc

### *Samprapthi of Koshtasritha Kamala*:

Patient suffering from *Panduroga* indulges in *Pitta* aggravating *Aahara* and *Vihara* → *Pitta* burns the *Rakta* and *Mamsa* → Manifestation of *Kamala*.

### Signs and Symptoms of *Koshtasritha Kamala*:<sup>8</sup>

- *Haridra Netra*, *Tvak*, *Nakha*, *Anana* - Yellowish discoloration of eyes, skin, nails, and face
- *Raktha Peetha Shakrut Mutra* - The blood and urine appear reddish yellow.
- *Bheka Varna* - complexion becomes yellow in color similar to frog
- *Hatendriah* - His senses get impaired
- *Daha*, *Avipaka*, *Dourbalya*, *Sadana*, *Aruchi* - Patient has burning sensation, indigestion, weakness, fatigue and Anorexia.

### *Shakashrita Kamala Nidana*:<sup>9</sup>

*Ruksha*, *Sheeta*, *Guru*, *Swadu*, *Ahara sevana* – Intake of dry, cold, sweet and heavy foods

*Vyayama* – Excessive exercise

*Vega Nigraha* – Suppression of natural urges

### *Samprapthi of Shakashrita Kamala*:<sup>10</sup>

*Aahara Vihara Nidana* → *Vayu* Vitiates and gets *Sammurchita* with *Kapha* → *Kapha* obstructs the *Marga*/passage of *Pitta* → This causes the forceful displacement of *Pitta* from its main *Sthana* → The eyes, urine and skin of the patient becomes yellowish in color

### Signs and symptoms of *Shakasritha Kamala*:<sup>11</sup>

- *Tila Pishta Nibham* - Patient voids stool having color of Sesame paste, this indicate that *Pitta* is obstructed by *Kapha*.

- *Atopa* - Gurgling sounds in the intestine
- *Vishtambha* - Tightness of abdomen
- *Hrudaya Gurutha* - Heaviness in cardiac region

Patient gradually suffers from

- *Agnimandhya* - Decrease in digestive fire
- *Parswa Shula* - Pain in the sides of the chest
- *Hikka, Swasa, Aruchi, Jwara* - Hiccup, Dyspnea, Anorexia and Fever

### ***Kumbha Kamala:***

It is the consequence of *Kamala* if not treated properly

*Kamala* becomes deep seated and becomes difficult to cure

### **Signs and symptoms of *Kumbhakamala*:<sup>12</sup>**

- The stool and urine of patient becomes dark and yellowish
- Oedema appears in the body
- Face and eyes appear red
- Burning sensation, anorexia, thirst, drowsiness, fainting
- He losses *Agni* (Metabolic fire)
- Losses consciousness

**Halimaka:** It is caused due to aggravation of *Vata* and *Pitta*

### **Signs and symptoms of *Halimaka* :<sup>13</sup>**

- *Harita Syava* and *Peetha Varnatha* - Patient complexion changes to Green, Black or Yellowish in color.
- *Bala, Utsaha Kshaya* - Diminution of strength and enthusiasm
- *Tandra* - Drowsiness
- *Mandagni* - Decrease in digestive fire
- *Mrudu Jwara* - Mild fever
- *Anga Mardha* - Body pains
- *Swasa, Trishna, Aruchi, Brama* - Dyspnea, Thirst, Anorexia and Giddiness

### **Modern perspective**

#### **Causes of Jaundice:**

**Prehepatic:** Hemolytic anemia, Gilberts syndrome,

**Hepatocellular:** Alcoholic liver disease, Viral hepatitis, biliary cirrhosis, Hepatocellular carcinoma

**Post hepatic:** Gall stones, Strictures, Pancreatic cancers, abdominal masses

#### **Types of Jaundice:<sup>4</sup>**

Pre hepatic

Hepatocellular

Post hepatic

**Pathophysiology of jaundice:**

Jaundice is caused by elevated levels of bilirubin in the blood, which is a byproduct of the breakdown of hemoglobin during destruction of red blood cells in the body.

Under normal conditions, bilirubin is conjugated in the liver to become water-soluble and is then excreted into the gastrointestinal tract via bile. Most of it is eliminated in the feces as urobilinogen and stercobilin (a breakdown product of urobilinogen). About 10% of urobilinogen is reabsorbed into the bloodstream and excreted by the kidneys. Jaundice occurs when this process is disrupted.

**Pre hepatic:<sup>14</sup>**

Caused either by hemolysis or by congenital hyperbilirubinemia and in hemolysis destruction of red blood cells or their marrow precursors causes increased bilirubin production. This causes an unconjugated hyperbilirubinemia.

Jaundice due to hemolysis is mild because liver can excrete a bilirubin load six times greater than normal before unconjugated bilirubin accumulates in plasma.

**Hepatocellular:<sup>15</sup>**

It results from an inability of liver to transport bilirubin into bile occurring as a consequence of parenchymal disease. Bilirubin transport across the hepatocytes may be impaired at any point between uptake of unconjugated bilirubin into the cells and transport of conjugated bilirubin into the canaliculi.

In this raise in both unconjugated and conjugated bilirubin levels in blood are seen.

**Post hepatic/Obstructive jaundice:<sup>16</sup>**

Post hepatic jaundice occurs due to an obstruction in Biliary drainage or Failure of hepatocytes to initiate bile flow. The Bilirubin that is not excreted will have been conjugated by liver, hence the result is a conjugated hyperbilirubinemia.

If left untreated, cholestatic jaundice progressively worsens due to the inability of conjugated bilirubin to enter the bile canaliculi, causing it to flow back into the bloodstream. Additionally, the liver fails to clear the unconjugated bilirubin arriving at its cells, further exacerbating the condition.

**Clinical features of obstructive jaundice:**

Obstruction of the bile duct drainage due to blockage of the extrahepatic biliary tree is characteristically associated with pale stools and dark urine.

Pruritus may be a dominant feature and can be accompanied by skin excoriations

**Signs and Symptoms of jaundice:<sup>17</sup>**

Yellowish discoloration of Skin, Nails and Sclera

Itching preceding jaundice

Abdominal pain

Weight loss

Dark urine and pale stools

Fever

Dry eyes and Dry mouth

**Discussion:**

*Ayurveda* considers liver as one of the important *Pitta Sthanas*. The *Mala Rupa Pitta* produced as a byproduct of *Dhatu Paka*/transformation must be properly eliminated. In *kamala* this elimination of *Mala Rupa Pitta* is hindered by factors such as obstruction caused by *Kapha* or presence of *Ama* as a result obstructed *Pitta* exists the *Koshta* and settles in *Shaka* leading to symptoms like Yellowish discoloration of sclera and pale stools etc *Shakasritha Kamala* can be correlated with obstructive jaundice, where features like clay-colored stools, itching, and dark urine are observed, in obstructive jaundice the flow of bile is hindered due to structural abnormalities such as stricture, masses, stones etc according to Ayurvedic view this obstruction is caused by *Kapha* influenced by *Vayu*, similarly *Koshtasrita Kamala* corresponds to hepatocellular jaundice, which occurs when the liver cells fails to function properly, this condition is also called as *Bahu Pitta Kamala* where excessive *Pitta* accumulates in *Maha Srotas/Koshta* this occurs due to intake of *Pitta Kara Dravyas* like *Madhya Sevana* etc which burns the *Mamsa* i.e liver tissue. *Kumbha Kamala* and *Halimaka* are described as an advanced or complicated stages of *Kamala* which represent progression of disease.

**Conclusion:**

*Kamala* is *Pitta Pradhana Vyadhi*, In *Ayurveda*, diseases are analyzed concerning the imbalance of *Vata*, *Pitta* and *Kapha Doshas*. The primary causative factors of *Kamala* are improper dietary and lifestyle (*Ahara* and *Vihara*) that aggravate *Pitta*, from modern perspective the common causative factors include Alcohol consumption and other factors that place excessive stress on the liver leading to altered bilirubin metabolism and its accumulation in blood, in jaundice clinical signs and symptoms arise from elevated bilirubin in bloodstream, similarly *Ayurveda* attributes these symptoms to excessive *Pitta*, *Peeta Varna*/ Yellow discoloration is characteristic of *Pitta*, *Ayurveda* also explains progression of jaundice in stages such as *Kumbha Kamala* and *Halimaka* which represent complications like encephalopathies and deficiencies, this detailed *Ayurvedic* understanding, which dates back centuries, underscores its depth in describing the pathogenesis, symptoms, and progression of *Kamala*. By integrating Ayurvedic insights with modern scientific knowledge, a more comprehensive understanding of the disease can be achieved. This dual approach not only simplifies treatment but also aids in prevention by addressing the root causes, such as avoiding specific dietary and lifestyle factors that aggravate *Pitta*.

**References:**

1. R.K. Sharma, Bhagawan das, Charaka Samhita with English translation & critical exposition based on Cakrapani Datta's Ayurveda Deepika Chikitsa Sthana 16/34 Chowkhamba Sanskrit series office Varanasi, edition Reprint, 2016 Page no 91
2. Prof. Dr. Vasant C. Patil, Dr. Rajeshwari N.M. Susruta Samhita of Maharshi Susrutha with English Translation of Text and Dalhana's Commentary with Critical Notes Vol – 3 Uttara Tantra 44/10, edition Reprint, 2024, Page no 363-364
3. Prof Hari Sada Shiva Shastri paradkar Srimad Vagbhata Virachita Astanga Hrudaya, Srimad Aruna Datta Virachita Sarvanga Sundara Vyakhya, Hemadri Praneetha Ayurveda Rasayana teeka, Nidana Sthana 13/17 edition Reprint, 2024, Page no 519
4. Stuart H. Ralston, Ian D. Penman, Mark W. J. Strachan, Richard P. Hobson Davidson's Principles and Practice of Medicine, Elsevier, edition 23, Page no 860

5. R.k. Sharma, Bhagawan das, Charaka Samhita with English translation & critical exposition based on Cakrapani Datta's Ayurveda Deepika Chikitsa Sthana 16/34 Chowkhamba Sanskrit series office Varanasi, edition Reprint, 2016 Page no 91
6. Prof. Dr. Vasant C. Patil, Dr. Rajeshwari N.M. Susruta Samhita of Maharshi Susrutha with English Translation of Text and Dalhana's Commentary with Critical Notes Vol – 3 Uttara Tantra 44/12, edition Reprint, 2024, Page no 364
7. Prof Hari Sada Shiva Shastri paradkar Srimad Vagbhata Virachita Astanga Hrudaya, Srimad Aruna Datta Virachita Sarvanga Sundara Vyakhya, Hemadri Praneetha Ayurveda Rasayana teeka, Nidana Sthana 13/15 edition Reprint, 2024, Page no 519
8. R.k. Sharma, Bhagawan das, Charaka Samhita with English translation & critical exposition based on Cakrapani Datta's Ayurveda Deepika Chikitsa Sthana 16/35,36 Chowkhamba Sanskrit series office Varanasi, edition Reprint, 2016 Page no 91
9. R.k. Sharma, Bhagawan das, Charaka Samhita with English translation & critical exposition based on Cakrapani Datta's Ayurveda Deepika Chikitsa Sthana 16/125 Chowkhamba Sanskrit series office Varanasi, edition Reprint, 2016 Page no 112
10. R.k. Sharma, Bhagawan das, Charaka Samhita with English translation & critical exposition based on Cakrapani Datta's Ayurveda Deepika Chikitsa Sthana 16/125 Chowkhamba Sanskrit series office Varanasi, edition Reprint, 2016 Page no 112
11. R.k. Sharma, Bhagawan das, Charaka Samhita with English translation & critical exposition based on Cakrapani Datta's Ayurveda Deepika Chikitsa Sthana 16/126,127 Chowkhamba Sanskrit series office Varanasi, edition Reprint, 2016 Page no 112
12. R.k. Sharma, Bhagawan das, Charaka Samhita with English translation & critical exposition based on Cakrapani Datta's Ayurveda Deepika Chikitsa Sthana 16/36,37 Chowkhamba Sanskrit series office Varanasi, edition Reprint, 2016 Page no 92
13. R.k. Sharma, Bhagawan das, Charaka Samhita with English translation & critical exposition based on Cakrapani Datta's Ayurveda Deepika Chikitsa Sthana 16/132,133 Chowkhamba Sanskrit series office Varanasi, edition Reprint, 2016 Page no 114
14. Stuart H. Ralston, Ian D. Penman, Mark W. J. Strachan, Richard P. Hobson Davidson's Principles and Practice of Medicine, Elsevier, edition, 23, Page no 860
15. Stuart H. Ralston, Ian D. Penman, Mark W. J. Strachan, Richard P. Hobson Davidson's Principles and Practice of Medicine, Elsevier, edition, 23, Page no 860
16. Stuart H. Ralston, Ian D. Penman, Mark W. J. Strachan, Richard P. Hobson Davidson's Principles and Practice of Medicine, Elsevier, edition, 23, Page no 862
17. Stuart H. Ralston, Ian D. Penman, Mark W. J. Strachan, Richard P. Hobson Davidson's Principles and Practice of Medicine, Elsevier, edition, 23, Page no 860