



## EVALUATION OF AYURVEDIC MANAGEMENT AND FOLK MEDICINES IN KAMALA

Bindhuja B Kurup<sup>1</sup>, Arun Pratap<sup>2</sup>, L Mahadevan<sup>3</sup>, Kasthuri Nair A<sup>4</sup>, Aparna Chandran<sup>5</sup>

<sup>1</sup>PG Scholar, <sup>2</sup>HOD & Professor, <sup>3</sup>Professor <sup>4</sup>Assistant Professor, <sup>5</sup>Assistant Professor Department of Kayachikitsa, Pankajakasthuri Ayurveda Medical College & PG Centre, Kattakada, Thiruvananthapuram, Kerala, India.

Corresponding Author: [bindhujab1991@gmail.com](mailto:bindhujab1991@gmail.com)<https://doi.org/10.46607/iamj0510122022>

(Published Online: December 2022)

## Open Access

© International Ayurvedic Medical Journal, India 2022

Article Received: 18/11/2022 - Peer Reviewed: 04/12/2022 - Accepted for Publication: 17/12/2022



## ABSTRACT

In Ayurvedic literature, *Kamala* is described as *Pittananatmaja* and *Raktapradoshaja Vyadhi*. *Acharyas* mentioned it as an advanced stage or as a further complication of *Pandu*, or as a separate disease. All considered vitiated *Pitta* as the main causative factor in its *Samprapti*. The classification of *Kamala* was done based on the pathology which is mainly of 2 types *Koshtasrita Kamala* and *Shakasrita Kamala*. In our classics, *Acharya* has clearly explained these pathologies and their treatment. As *Pitta Vriddhi* is the main factor, the general line of treatment is to expel this vitiated *Pitta*. Depending upon the *Lakshana* shown, *Chikitsa* should be adopted. If *Pitta Vriddhi* is in *Koshta* which is *Koshtasrita Kamala*, *Mrdu Virechana* has to be done. *Shakhasrita Kamala* needs a different treatment principle, since *Malarupapitta* is in *Sakha*, *Virechana* will be ineffective. So *Kaphahara Chikitsa* which brings back *Pitta* to the *Koshta* must be done followed by *Koshtasritha Kamala Chikitsa*. *Acharyas* have mentioned various formulations and preparations possessing *Pitta-Kaphahara*, *Rakta Prasadana*, *Yakrit Prasadana*, and *Srotoshodhana* properties for these conditions which will be discussed in this paper. In addition to this, some of the folk medicines which are practiced in India are also discussed here they were used long ago by our ancestors and are even used now for the treatment of *Kamala*. Recent research has validated these drugs and certain classical formulations for analytical tests that reveal their hepatoprotective activity which can make the science more scientific. So, through this article possible mechanisms of action of classical medicines mentioned by our *Acharya* along with some of the practiced folk medicines are discussed.

**Keywords:** Kamala Chikitsa, Hepatoprotective, Folk medicines

## INTRODUCTION

The literary meaning of *Kamala* is “*Kaman Lati Iti Kamala*” which means that the individual loses desire in every aspect. This may be due to the increased *Usna* (hot), *Tikсна* (sharp) *Guna* due to the *Pitta Vriddhi*. It is considered a *Pitta Nanatmaja*<sup>1</sup> and a *Raktapradoshaja Vyadhi*<sup>2</sup>. *Rakta* (blood) and *Pitta* are *Ashraya* –*Ashrayi*, hence if there is any *Dushti* in *Ashraya* i.e., *Pitta*, it will affect the normalcy of *Ashrita Dhatu* i.e., *Rakta Dhatu*. *Nidana* like excessive intake of *Usna Ahara*, *Vidahi Ahara*, *Dadhi*, *Kshara*, *Krodha*, *Bhaya*, *Sarat Kala* can cause *Raktadushti*, which is almost similar to that of *Pitta Prakopa* that causes the disease. When *Rakta* is vitiated the *Srotas* (channels) through which it circulates also get vitiated that leads to the vitiation of its *Mulasthanas* (origin), *Yakrit* (liver), and *Pleeha* (spleen). Even though the *Mulasthana* is *Yakrit* and *Pleeha*, *Acharya* didn't mention much about the involvement of *Yakrit* in the pathogenesis of *Kamala*. *Acharya Chakrapani* in his commentary mentioned that *Kamala* can be seen associated with *Panduroga* or independently without *Panduroga*. When a *Rogi* suffering from *Pandu*, consumes *Pittala Ahara* and *Vihara* in excess, *Pitta Prakopa* can take place that causes the *Vidagdha of Rakta* and *Mamsa* (muscle tissue) which leads to the improper functioning of *Yakrit* leading to *Kamala*. Thus, *Pandu* is considered a *Nidanarthakara Roga* for *Kamala*. On the other hand, it can manifest even without *Pandu* as a *Swatantra Roga* with *Alpa Pramana Pittakopa*. It is mainly classified as *Sakhasrita* and *Koshtasrita*, based on the *Pitta Vriddhi* whether it is in *Sakha* or *Koshta* respectively.

On the basis of the similarity of *Lakshana* (symptoms) like *Peetatha* of *Twak*, *Netra*, *Mutra*, and *Purisha* (yellowish discolouration of skin, eyes, urine and stools) in contemporary science, it can be correlated with jaundice. Jaundice is a clinical manifestation of elevated serum bilirubin that leads to yellow pigmentation of the skin, conjunctival membrane over the sclera, and other mucus membrane.

*Acharya* has mentioned *Shodhana* (purifactory therapy) as well as *Samana Chikitsa* (pacification therapy) for both *Sakhasrita* and *Koshtasrita Kamala* which are effective in managing the disease. This paper discusses the ayurvedic approach to the management of *Kamala* along with some folk medicines that are used to treat *Kamala*.

## MATERIALS AND METHODS

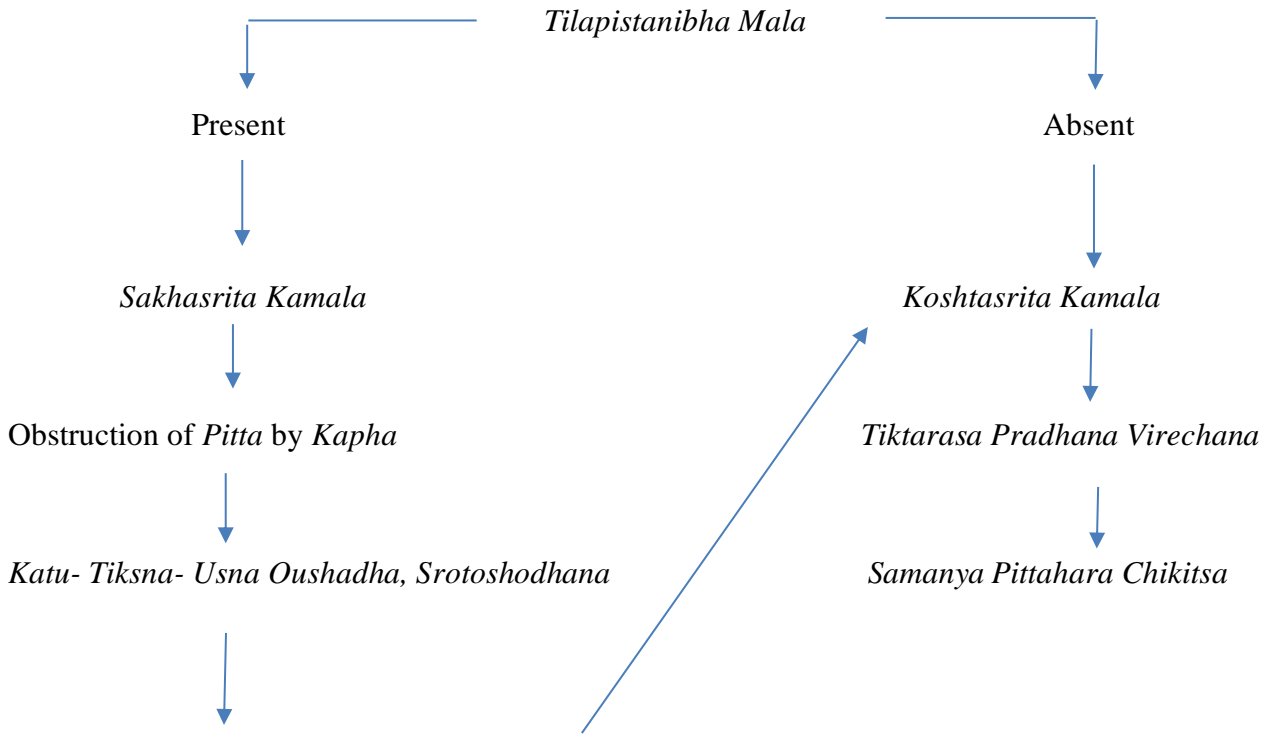
A literary review was done with different texts along with some modern publications. The data were collected from different classical texts with their commentaries, Hepatopathy (Kottakkal *Ayurveda* series), 10,001 Ottamoolikal, *Ashtanga Ayurveda Samhita*, and also from different relevant articles published, dissertation works, etc.

The main aim of the study is to analyze Ayurvedic management, and some folk medicines used in *Kamala*.

## RESULTS AND DISCUSSION

In the literature, *Kamala* is a disease that is briefly described with clear *Pitta* predominance. It is classified as *Sakhasrita* and *Koshtasrita Kamala* where *Mrdu Virechana* (mild purgation) with the *Tikta Dravyas* (bitter drugs) are the main line of treatment in both<sup>4</sup>.

## TREATMENT PROTOCOL OF KAMALA



### Removal of Obstruction and Agamana of Pitta in Koshta

#### SAKHASRITA KAMALA

In *Sakhasrita Kamala*, *Vata* displaces *Pitta* from its own *Sthana* and removes *Pitta* from *Koshtha*. Due to the absence of *Pitta*, *Purisa* is not coloured here hence the person excretes *Tilapistanibha Svetavarchas* (clay coloured stools), which is the cardinal and differentiating symptom of *Sakhasrita Kamala*. The passage of *Pitta* is obstructed by *Kapha* here and the *Malarupa Pitta* is located in the *Sakha*. *Sodhana* like *Virechana* cannot expel this vitiated *Dosha* unless they are brought back to the *Koshtha*. So, the first line of treatment is the removal of this obstruction by the drugs that are *Kaphahara*. Thus, drugs having *Usna*, *Tiksna*, *Amla* (sour), *Katu* (pungent) *Rasa* can be used here<sup>5</sup>. For this, *Acharya* has mentioned *Ahara* with *Mamsa Rasa* (meat soup) of *Barhi* (peacock), *Tittiri* (partridge) or *Daksha* (cock) sizzled with *Ruksha* (dry), *Amla*, *Katu Dravyas*, *Trikatu* licked with *Bijapuraka Rasa*, *Yusa* (soup) prepared from *Kulattha* (horsegram) and *Mulaka* (radish), *Trikatu Curna* with

*Madhu* (honey) and *Matulunga Swarasa*<sup>6</sup>. These are *Pittavardhaka* and *Kaphahara Dravyas* having predominant *Amla*, *Katu Rasa*, thus it causes *Pitta Vridhi* (*Vishyandanat*) in *Sakha* and will attain *Vilayana* (liquefaction) due to the *Usna*, *Tiksna Guna* of the *Dravya* that helps in *Srotoshodhana* which bring back *Pitta* from *Sakha* to *Koshtha*. These drugs should be continued till the *Mala* of the *Rogi* acquires *Haridra Varna*<sup>7</sup>. Once *Pitta* returns to its *Sthana* and *Mala* gets coloured, the line of treatment of *Koshthasrita Kamala* can be followed.

#### KOSHTHASRITA KAMALA

In *Koshtasrita Kamala*, *Dusta Ahara Rasa* is formed due to the *Pachaka Pitta Dusti* and *Rasa Dusti* that causes the *Vidaha* of *Rakta* and *Mamsa*. *Atipravrtti* of *Pitta* occurs to the *Koshtha* resulting in the dark yellow colouration of the *Purisa* and also produces yellow discolouration just like that of *Haridra*, in eyes, skin, mouth, nails, and urine. Whenever there is an excess of *Dosha*, *Shodhana* should be done. *Virechana* is the

most suitable *Sodhana* as it is *Agrya Chikitsa* for the elimination of *Pitta* and subsequently *Kapha*.

*Samshodhyo mrdubhistiktai kamali tu virechanai ||*  
(*Ch chi 16/40*)

Here, *Mrduvirechana* is advised about the drugs that are *Tikta Rasa*. Drugs that are described by *Acharya* for *Virechana* are *Aragvadha* added with *Trikatu* and *Bilvapatra* with *Iksurasa*, *Vidari*, and *Amalaki*, half *Pala* of *Danti Kalka* mixed with 1 *Pala* of *Guda* along with cold water, *Trivrit Kalka* with *Triphala Kwatha*<sup>8</sup> which are having *Pitta-Kaphahara* action.

After *Virechana Karma*, *Samana* drugs are to be administered. They can be given as single drugs or compound drugs with *Madhu* and *Gomutra* as *Anupana*.

Some of the single drugs mentioned are<sup>9</sup>:

- *Guduchi* (*Tinispora cordifolia*)
- *Nimba* (*Azadirachta indica*)
- *Daruharidra* (*Berberis aristata*)
- *Vasa* (*Adhatoda vasica*)
- *Alambusha* (*Mundi - Spharanthus indicus L.*)
- *Shilajatu* (mentioned by *Gadanigraha* and *Siddhayoga*).
- *Raupya* and *Suvarna Makshika*

These single drugs or mineral practices are very popular among traditional/ folk practitioners of *Kamala*

Some of the compound drugs in *Kamala* are:

- *Kashaya* of *Triphala*, *Guduci*, *Darvi* with *Madhu* in the morning.

- *Ayoraja* with *Haritaki* and *Haridra* with *Ghrta* and *Madhu*.

- For *Pana*, *Rasa* of *Draksha* with *Amalaki*

These drugs are having the properties like *Deepana* (appetizer), *Pitta Samana*, *Raktaprasadana*, *Srotoshodhana*, *Yakriduttejaka* (hepatostimulant) and also recent studies suggest that the above drugs possess hepatoprotective properties.

**Anjana** (collyrium):

In the majority of texts, the application of *Dronpushpi Swarasa* (*Leucas cephalotes Spreng*), *Curna* of *Nisa*, *Gairika*, and *Dhatri* are described as *Anjana*<sup>10</sup>. It is done to eliminate morbid *Sthanika Pitta Dosha* from *Netra* (eyes).

**Nasya** (errhines):

*Nasya* with *Karkotaka Moola* (*Momordica dioica*) is suggested for *Nasya* in *Kamala*. Many old *Vaidyas* from the southern part of Maharashtra practicing this even today. *Nasya* with *Jeemutaka Phala* (*Luff echinata Roxb.*) is advised by *Sharnghadhara* in *Kamala*. The probable mode of action will be the absorption of these drugs by nasal mucosa causing nasal irritation which enhances the nasal secretion of bilirubin also the active principle do get absorbed by nasal mucosa will be having an action on the liver. A study on *Kamala* with *Jeemutaka Phala Nasya* shows that a nasal discharge starts after 1-1<sup>1/2</sup> hours continues for the standard of 12 hours, and the subjects show significant relief thereafter<sup>11</sup>.

**Table No:1 Some of the classical preparations used in Kamala**

KASHAYA	CURNA	VATAKA	VATI	ARISTA	AVALEHA
<i>Phalatrikadi kashaya</i>	<i>Navayasa Lauha</i>	<i>Mandura Vataka</i>	<i>Arogyavardhini vati</i>	<i>Dhatryarishta</i>	<i>Drakshavaleha</i>
<i>Vasaguluchyadi kashaya</i>	<i>Dhatri Lauha</i>			<i>Parppatakarishta</i>	
<i>Patolakaturohinyadi kashaya</i>	<i>Vidangadi Lauha</i>			<i>Dasamularishta (sha)</i>	
<i>Nimbatvagadi kashaya</i>					

- *Phalatrikadi Kashaya* is mentioned in the context of *Pandu* and *Kamala* in *Chakradatta*. The drugs in

this *Kashaya* are having the properties like *Pittahara*, *Pittarechaka*, *Yakriduttejaka*, *Deepana*, and *Pacana* thus it is effective in *Koshtasrita Kamala*.

On modern parameters, it is having the properties like Hepatocellular regeneration, antiviral, and antioxidant properties<sup>12</sup>.

- *Vasaguluchyadi Kashaya* is *Tikta Katu Rasa*, *Deepana* and *Pacana* and it is *Raktaprasadana* and *Shodhana Kalpa*. *Tikta Katu Rasa*, *Deepana*, *Pacana*, and *Pittasamana* properties help in reducing the symptoms of *Agnimandya* (dyspepsia), *Aruchi* (anorexia), *Hrillasa* (nausea) and it has *Yakrid-uttejaka* and *Yakrit Prasadana* properties.
- *Patolakaturohinyadi Kashaya* is *Tikta Rasa Pradhana*, which is *Pittasamana* in nature having *Laghu*, *Ruksha Guna* and is a *Madhyama Shodhana Yoga* stated in *Ashtanga Hridaya Shodhanadi Ganasangraha Adhyaya*. It is *Raktaprasadana*, *Yakrit Prasadana* and *Balya Oushadha*. In a study conducted, it was observed that this formulation can effectively reduce symptoms like *Agnimandya*, *Aruchi*, *Hrillasa*, *Trisna* (thirst), *Daha* (burning sensation) and is equally effective in normalizing liver function tests.
- *Nimbatvagadi Kashaya* is mentioned in *Sahasrayoga* for *Kumbha Kamala* and *Halimaka*. It is *Tikta Kashaya Rasa Pradhana* having *Pitta Kapha Samana*, *Rakta Prasadana*, *Yakrit Prasadana*, and *Balya* properties.
- *Navayasa Lauha* is mentioned in *Ashtanga Hridaya Pandu Chikitsa* indicated for *Pandu* and *Kamala*. It is having *Katu Kashaya Tikta Rasa*, *Ruksha*, *Tiksha Guna* with *Usna Virya*, and *Yakrit Prasadana* and *Balya*.
- *Vidangadi lauha* is *Srotoshodhana*, *Lekhana* (scraping) *Oushadha* having *Yakrit Prasadana* property.
- *Dhatri Lauha* mentioned in *Bhaishaijyarnavali* having the properties like *Raktaprasadana*, *Yakrit Prasadana*, etc.
- *Mandura Vataka* mentioned in *Ashtanga Hridaya Panduroga Chikitsa* is having *Kashaya*, *Tikta Katu Rasa*, *Ruksha*, *Tiksha Guna* and it is *Srotoshodhana* and *Lekhana Oushadha* thus it can adopt in *Sakhasrita Kamala*.

- *Aarogyavardhini Vati* contains *Katuki* as the main ingredient having *Tikta Rasa* and *Kapha- Pittahara* *Doshakarma*. It helps in pacifying *Pitta Dosha*.
- *Dhatryarishta* mentioned in *Caraka Samhita* having *Pitta Samana*, *Yakrit – Pleeha Prasadana*, *Deepana*, *Anulomana* properties.
- *Parppatakarishta* is *Kaphapitta Samana*, *Deepana* and *Pacana*, *Yakrit Prasadana*, *Srotoshodhana* and can reduce the *Dravatwa* and *Tikshnata* of *Pitta*.
- *Drakshavaleha* is *Rakta Prasadana*, *Yakrit Balya Oushadha* which is given in the recovery phase of *Kamala*.

#### Folk medicines used in Kamala

There are some medicinal plants that are used as folk medicines to treat *Kamala* by traditional healers. The use of these plants is still prevailing because of the high cost and difficulty in access to allopathic medications, especially for those living in rural areas. Some of them are described here with their probable mode of action and description of scientific evidence available:

- *Panchanga* of *Bhumyamalaki* (*Phyllanthus niruri*) is taken and a bolus of around 15 g is made and taken on an empty stomach in the morning (for effective absorption). It is followed by an intake of buttermilk added with a pinch of turmeric powder<sup>13</sup>.
- Due to its *Tikta*, *Kashaya*, *Madhura Rasa*, *Ruksha Guna*, and *Sheeta Virya* (cold potency) it causes *Pitta Samana* in *Kamala*. Scientific studies show that *Phyllanthin*, *flavonoids*, and *tannins* present in this drug possess *Hepatoprotective* properties<sup>14</sup>. Buttermilk contains *vitamin B<sub>2</sub>* and *turmeric* contains constituent *curcumin*, both these can promote liver functions.
- 10 g *Kalka* (paste) of *Guduchi* (*Tinospora cordifolia*) is given with *Madhu* on empty stomach for 1 week<sup>15</sup>
- In *Bhavaprakasha*, *Guduchi* is considered a potential curative against *Pandu* and *Kamala*. Due to its *Tikta* and *Kashaya Rasa*, it causes *Pitta Samana*. Studies suggest that it is used in *Jaundice* and *Hepatitis* due to its ability to detoxify the liver. Phyto-

constituents such as flavonoids and alkaloids present in the ethanolic extract of *T. cordifolia* leaf, stem, and root showed significant hepatoprotective action against CCl<sub>4</sub>-induced liver damage in the rat when administered orally by lowering the serum enzyme level of ALT, AST, ALP, and total bilirubin<sup>16</sup>.

- *Kalka* of *Bhringaraja Patra* (*Eclipta alba*) (2 g) grind with a few *Marica* (*Piper nigrum*) is given to the patient every morning on empty stomach (for effective absorption) for 5 – 6 days in *Kamala*<sup>17</sup>. *Yakrit* is considered the main site of metabolism & it is used to improve the metabolism due to its *Deepana* and *Pachana Guna*. A hepatoprotective study of the aerial part of this plant was conducted on the paracetamol-induced hepatocellular damage in mice and the result showed a significant protective effect on the liver of mice. This data gives scientific evidence to its traditional use for liver-related disease<sup>18</sup>.

Piperine present in *Marica* can reduce liver damage and can modify the liver function in jaundice<sup>19</sup>.

- *Mula Kalka* of *Punarnava* (*Boerhavia diffusa*) (1/4 – 1 teaspoon) is given with *Nalikerodaka* (coconut water) for 7 days. *Punarnava Patra Swarasa* (1-2 teaspoons) with the same quantity of water is given once or twice daily before food in *Kamala* for 7 days<sup>20</sup>. Due to its *Madhura*, *Tikta* and *Kashaya Rasa*, and *Sheeta Virya* it can act as *Pitta Samaka*. It corrects the functions of the liver by removing toxins from the liver cells because of its *Shodhana* and *Mutrala* (diuretics) properties. Due to its *Deepana Guna*, it helps in the easy digestion of food and reduces the burden on the liver. An alcoholic extract of whole plant *Boerhaavia diffusa* given orally exhibited hepatoprotective activity against experimentally induced carbon tetrachloride hepatotoxicity in rats and mice<sup>21</sup>. It has antioxidant properties, and thus works against liver cell damage caused by free radicals thereby showing Hepatoprotective activity. *Nalikerodaka* contains plenty of nutrients that are beneficial for the liver, and it is a good source of Antioxidants.

- *Kalka* of tender leaves of the white variety of *Eranda* (*Ricinus communis*) (5 g) is given on empty stomach (for better absorption) for 4 – 5 days<sup>22</sup>. Due to its *Usna Virya* and *Tiksna, Sukshma Guna* even in small doses it is useful. *Ricinus communis* leaves ethanolic extract to possess hepatoprotective activity due to their inhibitory activities of serum transaminases and the level of lipid peroxidation, protein, and glycogen in the liver induced by ccl<sub>4</sub>. Fresh leaves of *Eranda* have hepatoprotective action and also help to drain bile into the intestine<sup>23</sup>.
- *Patra* and *Swarasa* of *Vasa* (*Adhatoda vasica*) (10-20 ml) or *Swarasa* of *Puspa* of *Vasa* is given in *Kamala* for 7 days with honey<sup>24</sup>. Due to its *Sheeta Virya* and *Tikta -Kasaya Rasa*, it acts as *Pitta Samana*. The studies suggested that the active constituent Vasicinone has hepatoprotective action, thus it improves liver function & helps in reducing jaundice<sup>25</sup>.
- *Kalka* of *Sahadevi* (*Vernonia cinerea*) with 1 pinch of cumin seeds (*Cuminum cyminum*) in milk given for 5 – 7 days can cure *Kamala*<sup>26</sup>. Studies suggest that *Sahadevi* and cumin seeds can decrease the elevated levels of AST, ALT, and bilirubin levels i.e., they have potent hepatoprotective action (from ccl<sub>4</sub>-induced hepatotoxicity in rats) and also act as a natural antioxidant against ccl<sub>4</sub> induced hepatic oxidative stress<sup>27</sup>. Cumin seeds are used because it promotes digestion, has *Deepana Guna*, and stimulates the secretion of enzymes from the pancreas.
- *Swarasa* of *Tulsi* (*Ocimum sanctum*) 1 spoonful is given twice daily by adding some water and a pinch of *Marica* or chewing 5 leaves of *Tulsi* in the morning for at least 1 week<sup>28</sup>. Antiviral properties of *Tulsi* can act against the virus that affects the liver thus reducing inflammation. Ethanolic extracts of *Tulsi* (which was done by hot extraction method) show hepatoprotective activity. The antioxidant property of *Tulsi* protects liver cells from damage caused by a virus & free radicals<sup>29</sup>. *Marica* used will act as a liver stimulant, used for loss of

appetite. In small doses, *Marica* stimulates the action of *Tulsi* due to its strength and causes *Srotoshodhana* due to its *Laghu*, *Tiksna*, and *Usna Guna*.

- Intake of *Kalka* of unripe fruit of *Dhamargava* (*Luffa aegyptiaca*) (5 g) for 5 – 6 days can cure *Kamala*<sup>30</sup>. It should be avoided by young children, old, and aged persons, during pregnancy and those suffering from cardiac ailments because it can cause *Vamana* (emesis) and *Virechana*. *Nasya* is done with the kernel of riped fruit of *Vanya Dhamargava* mixed with 4 ml *Stanya* (breast milk) (10-14 drops in both nostrils) in an advanced stage of *Kamala*. It is used in the condition where *Shodhana* is required. *Nasya* can cause *Srotoshodhana* due to its *Laghu*, *Ruksha*, *Tiksna Guna*, and *Usna Virya*, thus it helps to overcome the severe condition of *Kamala*. Ethanolic compounds present in the fruits have a hepatoprotective activity which was evaluated against paracetamol-induced liver toxicity which can lower SGOT, SGPT, Serum alkaline phosphatase, and serum bilirubin<sup>31</sup>.
- *Swarasa of Amalaki*(10- 20 ml) and an equal amount of *Ikshu Rasa* (sugarcane juice) can be given for 7 days in *Kamala* in the early morning<sup>32</sup>. Due to its *Tikta*, *Kashaya*, *Madhura Rasa*, *Sheeta Virya* and *Madhura Vipaka*, it is *Pittasamana*. *Amalaki* has Antiviral, Antioxidant properties. Phyllanthin present in it has the property to reduce bilirubin. The hepatoprotective activity of *Amalaki* was studied in ccl4-induced hepatic damage in rats<sup>33</sup>. Intake of its extract brings the normal levels of elevated AST, ALT, Bilirubin, Total protein, etc. *Ikshu* contains fibers & sugars that can enhance liver functions which will be helpful in *Kamala*, *Ikshu Rasa* along with the *Amalaki Swarasa* which is a source of vitamin c can fight against infections.
- The paste of *Badara* leaves (*Ziziphus jujuba*) is used as folk medicine in *Kamala*. *Badara*(15 g) should be made into a paste with *Guda* and *Ksheera* and it should be taken after dinner for 7 days<sup>34</sup>. Phytochemicals like Arabinose, Galacturonic acid, and Galactose aid in hepatoprotective action<sup>35</sup>. Due to its *Kashaya*, *Madhura Rasa*, *Sheeta Virya* and *Madhura Vipaka* it is *Pittahara*.

- *Swarasa of Dronapuspi*(5-10 ml) given in the morning for *Kamala*<sup>36</sup> Due to its *Ruksha & Usna Virya*, it is *Srotoshodhana* in nature, thus it is effective in obstructive jaundice. It is *K-V Samana* and *Pitta Shodhana*. This drug has been reported to exert hepatoprotective action in ccl4-induced hepatotoxicity in animals<sup>37</sup>. Some of the folk medicines practiced by local traditional healers in the Gadag and Dharwad districts of Karnataka are<sup>38</sup>

- 50 ml *Swarasa of Eranda Patra* with 3-4 gms of *Katuki Mula Curna* (*Picrorhiza kurroa*) (adult dose) and 20 ml *Swarasa of Eranda Patra* with 1-2 gms of *Katuki Mula Curna* (child dose) internally at early morning followed by the intake of a small quantity of *Guda*.

*Takra* (buttermilk) is advised as *Pathya* (wholesome) for 30 days.

*Apathya*– Green chilli, capsicum, bringal Possible modes of action of *Eranda* have already been discussed; *Katuki* is having *Tikta Rasa*, *Ruksha Guna*, and *Sheeta Virya* which leads to *Pitta Samana*. It is *Deepana* and has *Bhedana* properties i.e., expels *Pitta Dosh*. It has hepatoprotective activity and also possesses antioxidants that provide protection to the liver against cell damage caused by free radicals and improve bile production. *Katuki* root powder showed biological plausibility of efficacy, as supported by clinical trials in viral hepatitis, hepatoprotection in an animal model, and an approach for standardizing extracts based on picroside content<sup>39</sup>. *Takra* is *Laghu* (light) and is *Sheeta Virya* and is considered as *Pathya* in *Kamala*.

*Apathya* includes that are spicy in nature because *Katu*, *Usna*, and *Tiksna Guna* will increase *Pitta*.

- 40 ml of *Mulaka Swarasa* (*Raphanus sativus* Linn with a pinch of *Dhanyaka* 3 times a day on alternate days.

*Mulaka* is a *Yakriduttejaka* and has *Lekhana* and *Shodhana Guna*,

*Pathya* should be followed for atleast 1 month

- *Swarasa of Punarnava* with *Madhu* and sugar candy
- Curry made from raw papaya is advised internally along with food.

- Fine powder of equal amounts of *Amalaki*, *Ardraka*, *Marica*, and *Haridra* should be taken in the dose of 1 teaspoon with honey.
- *Swarasa* of *Mula* of *Kakamaci* (*Solanum nigrum* Linn)

This plant is a household remedy for liver disorders, jaundice. Aqueous and ethanol extracts proved as hepatoprotective agents<sup>40</sup>.

- Grind 10 g *Brahmi* (*Bacopa monnieri*) with water, filter the solution, and take it orally. Methanolic extract of leaves possesses hepatoprotective activity and can render protection against alcohol ccl<sub>4</sub>-induced toxicity<sup>41</sup>.

From these, we can understand that most of the above-mentioned drugs are having predominantly *Tikta*, *Katu*, and *Madhura Rasa*, possess *Laghu Ruksha Guna* and *Usna Virya* with *Deepana*, *Pacana Karma* thus it will act on *Jatharagni* (digestive fire) as well as *Dhatwagni* and increases the metabolism. According to modern pharmacology, the main mechanism involved in the protection of the liver could be associated with the strong capability of hepatoprotective drugs to reduce the intracellular levels of reactive oxygen species by enhancing the level of both enzymatic and non-enzymatic antioxidants and also protect against oxidative damage.

## CONCLUSION

The disease *Kamala* is thoroughly explained in *Samhitas* which helps us to understand the disease pathology and its treatment very clearly. *Acharyas* explained *Mrdu Virechana* in the treatment part of *Koshtasrita Kamala* but in *Shakasrita Kamala* medicines that alleviate both *Kapha* and *Vata* should be given so that the *Pitta* can be brought into *Koshta* then *Pittahara Chikitsa* should be given. In addition to these treatments, there are some folk medicines that are used by the local traditional healers to treat *Kamala* and for that different parts of medicinal plants are used. As per WHO about three-quarters of the world's population currently use herbs and other traditional medicines to cure various diseases including liver disorders. Studies have shown that economically backward local and tribal peoples prefer these folk medicines due to their

low cost and sometimes it is a part of their social life and culture, but the knowledge of these medicinal plants is limited to traditional healers.

These folk medicines should be conserved because it is threatened by a lot of factors like lack of interest in traditional healers, in transferring it to the next generation. Studies showed some of these practices are scientifically proved and some are yet to be proved. These may be useful for the development of new medicines for the treatment of *Kamala*.

## REFERENCES

1. Charaka. Charaka. Charak Samhita, Part I. Satya Narayana Shastri, editor. 1 st ed., Varanasi: Chaukhambha Bharti Academy; 2011. Maharogadhyaya, 20/14., p.403.
2. Charaka. Charaka. Charak Samhita, Part I. Satya Narayana Shastri, editor. 1 st ed., Varanasi: Chaukhambha Bharti Academy; 2011. Vividhasitapeeta adhyaya, 28/11-12. p.571
3. Charaka. Charaka Samhita, Part II. Satya Narayana Shastri, editor, 1 st ed. Varanasi: Chaukhambha Bharti Academy; 2011. Panduroga chikitsa, 16/34.p.491.
4. Vaidya Yadavaji Trikamji Acharya, Sushruta Samhita, Nibandhsangraha and Nyayachandrika Panjika tika, Chaukhanba Prakashana, Varanasi, Reprint, 2014; 729.
5. Hari Sadashivshashtri Paradkar, Ashtang Hriday, Sarvanga sundara and Ayurveda Rasayana tika, Chaukhanba Prakashana, Varanasi, Reprint, 2014; 519.
6. Shetty SN, Mengi S, Vaidya R, et al. A study of standardized extracts of *Picrorhiza kurroa* Royle ex Benth in experimental nonalcoholic fatty liver disease. J Ayurveda Integr Med. 2010;1(3):203–210.
7. Agnivesha, Charaka Samhita, Chikitsa Sthana, chapter 16, verse 130, Ayurveda deepika commentary by Chakrapanidatta. Editor: Yadavaji Trikamji Acharya. Chaukhambha Surabharati Prakashana Varanasi. Edition 2016. Page no 532.
8. Charaka. Charaka Samhita, Part II. Satya Narayana Shastri, editor, 1 st ed. Varanasi: Chaukhambha Bharti Academy; 2011. Panduroga chikitsa, 16/58-59,p.278.
9. [https://www.researchgate.net/publication/304244684\\_single\\_and\\_compound\\_formulations\\_in\\_the\\_management\\_of\\_kamala\\_jaundice\\_of\\_medieval\\_compendia\\_a\\_review](https://www.researchgate.net/publication/304244684_single_and_compound_formulations_in_the_management_of_kamala_jaundice_of_medieval_compendia_a_review).
10. Arunadatta, Vagbhatta, In: Harisadashiv Shastri Paradkar Vaidya (ed). Ashtanga Hridaya. Varanasi:



- Choukumba Surbharathi Prakashan. Sutrasthana, Chikitsa sthana, Chapter 16, Panduroga Adhyaya, verse 44, 2017;p704.
11. Madhavi Seetha.; Sch. Int. J. Tradit. Complement. Med.; Vol-1, Iss-1 (May-Jun 2018):5-8.
  12. Nirmal K.,Anil K.S.,(2013).Phalatrikadi Kvatha- An Ayurvedic Hepatoprotective Drug. IJRPC 2013, 2231-2781.
  13. Dr. J. Gunamani.10,001 Ottamooli, ISBN 9788190237680, Prasanthi Publishers, pg 124.
  14. R. Harish, T. Shivanandappa Antioxidant activity and hepatoprotective potential of *Phyllanthus niruri* Food Chem, 95 (2006), pp. 180-185
  15. Dr Aranmula Hariharaputhran(ed).Ashtanga Ayurvedasamhita, ISBN 978-8-1-922958-7-9, CSN Books, pg 632.
  16. V. Kumar, P.K. Modi, K.K. Saxena Exploration of hepatoprotective activity of aqueous extract of *Tinospora cordifolia* – an experimental study Asian J Pharm Clin Res, 6 (2013), pp. 87-91
  17. Dr. J. Gunamani.10,001 Ottamooli, ISBN 9788190237680, Prasanthi Publishers, pg 125.
  18. N. Tabassum, S.S. Agrawal Hepatoprotective activity of *Eclipta alba* Hassk. against paracetamol-induced hepatocellular damage in mice JK Practitioner, 11 (2004), pp. 278-280.
  19. O Abdel Salam, S Nofal, S El-Shenawy, N Shaffie. Effect of Piperine on Liver Damage and Bone Changes Caused by Bile Duct Ligation in Rats. The Internet Journal of Pharmacology.2007 Volume 5 Number 2.
  20. Dr. J. Gunamani.10,001 Ottamooli, ISBN 9788190237680, Prasanthi Publishers, pg 125.
  21. Chandan BK, Sharma AK, Anand KK. Boerhaavia diffusa: a study of its hepatoprotective activity. J Ethnopharmacol. 1991 Mar;31(3):299-307. doi: 10.1016/0378-8741(91)90015-6. PMID: 2056758
  22. Dr Aranmula Hariharaputhran(ed).Ashtanga Ayurvedasamhita, ISBN 978-8-1-922958-7-9, CSN Books, pg 632.
  23. Evan Sabina Prince, Poorna Parameswari, Rasool Mahaboob Khan. Protective Effect of Ricinus Communis Leaves Extract on Carbon Tetrachloride Induced Hepatotoxicity in Albino Rats. Iranian Journal of Pharmaceutical Sciences.2011;7(4):269-278.
  24. Dr Aranmula Hariharaputhran(ed).Ashtanga Ayurvedasamhita, ISBN 978-8-1-922958-7-9, CSN Books, pg 631.
  25. Chaitali Sarkar, Sankhadip Bose, Sugato Banerjee.Evaluation of the hepatoprotective activity of vasicinone in mice. Indian Journal of Experimental Biology, Vol 54, July 2014, pp.705-711.
  26. Dr Aranmula Hariharaputhran(ed).Ashtanga Ayurvedasamhita, ISBN 978-8-1-922958-7-9, CSN Books, pg 632.
  27. G. Leelaprakash, S.Mohan Dass, V.Sivajothi.Antioxidant and Hepatoprotective activities of Vernonia Cinerea extract against ccl4 induced hepatotoxicity in Albino Rats. Antioxidant and Hepatoprotective activities of Vernonia cinerea extract against ccl4 induced hepatotoxicity in Albino rats. Volume 10, Issue 2, September- October 2011.
  28. Dr. J. Gunamani. 10,001 Ottamooli, ISBN 9788190237680, Prasanthi Publishers, pg 125.
  29. RR Chattopadhyay, SK Sarkar, S Ganguly, C Medda, TK Basu. Hepatoprotective activity of Ocimum sanctum leaf extract against paracetamol-induced hepatic damage in rats. Indian Journal of Pharmacology 1992;24(3): 163-165.
  30. Dr. J. Gunamani.10,001 Ottamooli, ISBN 9788190237680, Prasanthi Publishers, pg 126.
  31. Sushama Dllip Patil, Anish S Jain, Vilasrao J Kadam.Assessment of Hepatoprotective potential of ethanolic extract of Luffa aegyptiaca mill in alcohol-induced hepatic injury in rats.doi:10.7897/2230-8407.097153
  32. Dr Aranmula Hariharaputhran(ed).Ashtanga Ayurvedasamhita, ISBN 978-8-1-922958-7-9, CSN Books, pg 632.
  33. Thilakchand KR, Mathai RT, Simon P, Ravi RT, Baliga-Rao MP, Baliga MS. Hepatoprotective properties of the Indian gooseberry (*Emblica Officinalis* Gaertn): a review. Food Funct. 2013 Oct;4(10):1431-41. DOI: 10.1039/c3fo60237k. PMID: 23978895.
  34. Dr Aranmula Hariharaputhran(ed).Ashtanga Ayurvedasamhita, ISBN 978-8-1-922958-7-9, CSN Books, pg 631.
  35. Preethi, K. Vennila, S. Penislusshiyam, S. Velvizhi. Hepatoprotective and Antioxidant Role of Ziziphus jujuba Leaves on Paracetamol Induced Hepatic Damage in Rats. Journal of Diseases and Medicinal Plants. Special Issue: Pharmacological Action of Medicinal Plants: Health and Diseases. Vol. 2, No. 1-1, 2016, pp. 1-10. Doi:10.11648/j.jdmp.s.2016020101.11
  36. Dr. J. Gunamani.10,001 Ottamooli, ISBN 9788190237680, Prasanthi Publishers, pg 125.
  37. <https://docslib.org/doc/5791079/leucas-cephalotes-roth-spreng-and-leucas-aspera-spreng>.

38. Sharma, B., 2010. *Survey of medicinal plants used in folk medicine in gadag and dharwad district w.s.r.t kamala*. Postgraduate. Rajiv Gandhi University of Health Sciences.
39. [https://www.researchgate.net/publication/339079904\\_hepatoprotective\\_and\\_hypolipidemic\\_effect\\_of\\_kutaki\\_picrorhiza\\_kurroa\\_royle\\_ex\\_benth-a\\_review](https://www.researchgate.net/publication/339079904_hepatoprotective_and_hypolipidemic_effect_of_kutaki_picrorhiza_kurroa_royle_ex_benth-a_review)
40. Lin HM, Tseng HC, Wang CJ, Lin JJ, Lo CW, Chou FP. Hepatoprotective effects of *Solanum nigrum* Linn extract against CCl<sub>4</sub>-induced oxidative damage in rats. *Chem Biol Interact*. 2008 Feb 15;171(3):283-93. doi: 10.1016/j.cbi.2007.08.008. Epub 2007 Aug 19. PMID: 18045581.
41. [https://www.researchgate.net/publication/339939537\\_an\\_evaluation\\_of\\_hepatoprotective\\_activity\\_of\\_aqueous\\_and\\_ethanolic\\_extract\\_of\\_bacopa\\_monnieri\\_l\\_against\\_paracetamol\\_induced\\_hepatotoxicity\\_in\\_swiss\\_albino\\_mice](https://www.researchgate.net/publication/339939537_an_evaluation_of_hepatoprotective_activity_of_aqueous_and_ethanolic_extract_of_bacopa_monnieri_l_against_paracetamol_induced_hepatotoxicity_in_swiss_albino_mice)

**Source of Support: Nil**

**Conflict of Interest: None Declared**

How to cite this URL: Bindhuja B Kurup et al: Evaluation of Ayurvedic Management and Folk Medicines in Kamala. *International Ayurvedic Medical Journal* {online} 2022 {cited December 2022} Available from: [http://www.iamj.in/posts/images/upload/3297\\_3306.pdf](http://www.iamj.in/posts/images/upload/3297_3306.pdf)