

A Critical Review on Probable Mode of Action of *Drakshadi Lehya* in *Koshtasrita Kamala* w.s.r.t Hemolytic Jaundice

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ABSTRACT

In the present era, maintaining liver health is increasingly important due to the modern lifestyle choices and auto immune disorders. Ayurveda advocates many hepatoprotective medicines for various liver disorders. *Kamala* is an ayurvedic clinical condition characterized by yellowish discoloration of eyes, skin and sclera, and can be classified as *Koshtasrita Kamala* and *Sakhasritha Kamala*. *Koshtasrita Kamala* can be crosslinked with hemolytic jaundice due to its similarities in signs and symptoms. *Drakshadi Lehya* is a polyherbal preparation which can act as *Mridu Virechana* as well as *Rasayana* in a patient with *Kamala*. It exhibits rejuvenative and hepatoprotective actions and is helpful in pacifying *Pitta Dosha*. It is in *Lehya* form, a preparation with good palatability, easy mode of administration and better absorption capacity. Here an attempt is carried out to explore the hepatoprotective action of *Drakshadi Lehya* in addressing symptoms of *Koshtasrita Kamala*.

KEYWORDS: *Drakshadi Lehya*; *Koshtasrita Kamala*; *Hemolytic Jaundice*.

INTRODUCTION

In the present era, where auto immune disorders, lifestyle disorders and infections are increasing significantly, maintaining liver health is crucial as it plays a vital role in detoxification, metabolism and immune function. Ayurveda advocates many treatment modalities in protecting the liver since centuries.

Kamala is an ayurvedic clinical condition characterized by excessive yellow coloration of eyes, skin, nails and face. It is considered to be a consequence of chronic or untreated *Pandu*, when *Pitta* vitiating diet and regimen are excessively followed and can be classified as *Koshtasrita Kamala* (*Bahupitta Kamala*) and *Sakhasritha Kamala* (*Alpapitta Kamala*), depending on its *Samprapthi* (pathogenesis). *Koshtasrita Kamala* can be crosslinked with Hemolytic jaundice due to their similarities in signs and symptoms^[1,2].

Jaundice is a clinical manifestation of hyperbilirubinemia characterized by yellowish staining of skin, mucous membrane and sclera. In hemolytic jaundice, which is a pre-hepatic jaundice, there is excess production of bilirubin that overtakes the ability of liver to conjugate the bilirubin and excrete into the gut. Since hemolytic jaundice occurs as a result of the excessive breakdown of RBCs, the liver becomes overburdened with processing large amounts of unconjugated bilirubin^[3,4]. Even though liver is not initially damaged, prolonged exposure to high levels of bilirubin can lead to hepatocellular damage, inflammation, fatty liver changes and secondary hepatic issues. So, focusing on hepatoprotective strategies, detoxification and enhancing regeneration of healthy RBCs would be ideal in this condition.

In *Koshtasrita Kamala* the general treatment is aimed at bringing back the normalcy of the *Pitta*, whose

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vitiating has brought about the excess breakdown of *Rakta* and *Mamsa*. For that the first line of treatment is *Snehana* (oleation) followed by *Mridu Virechana* (mild purgation) with bitter drugs, which helps in eliminating the vitiated *Doshas* and then the *Rasayanas* (rejuvenative) and *Dhatuposhaka Aharas* and *Aushadas* are to be given. Many *Avaleha Kalpanas* are mentioned in the context of treatment of *Pandu* and *Kamala*. *Drakshadi Lehya* is one such preparation which can act as *Mridu Virechana* as well as *Rasayana* in a patient with *Kamala*. It exhibits rejuvenative and hepatoprotective actions and is helpful in pacifying *Pitta Dosha*. It is in *Lehya* form, a preparation with good palatability, easy mode of administration and better absorption capacity.

This review work discusses the ingredients, preparation method, indications and the probable

mode of action of *Drakshadi Lehya* in *Koshtasritha kamala*.

MATERIALS AND METHODS:

A detailed review of Ayurvedic classics and their commentaries, modern medical text books, several clinical studies, published articles were carried out.

DRUG REVIEW

Name of the yoga: *Drakshadi Lehya*

Drakshadi Lehya is mentioned in the context of *Panduroga Chikitsa* in *Ashtanga Hridaya*, *Chikitsasthana* and is indicated in *Pandu*, *Kamala* and *Haleemaka*^[5]. The same *Yoga* is mentioned in *Charaka Samhita*, *Panduroga Chikitsa* as *Dhatryavaleha* where the indications include *Kamala*, *Pittavikara*, *Pandu*, *Kasa* and *Haleemaka*.

Dosage is 1 *Pani Thala* (12g)

Table 1: Ingredients of Drakshadi Lehya with botanical names, parts used and quantity

Ingredient	Botanical name	Parts used	Quantity in A.H.	Quantity
<i>Draksha</i>	<i>Vitis vinifera</i>	Dry Fruit	1 <i>Prastha</i>	768 g
<i>Sharkara</i>	-	Sugar	½ <i>Tula</i>	2.400 kg
<i>Kana</i>	<i>Piper longum</i>	Fruit	1 <i>Prastha</i>	768 g
<i>Madhuka</i>	<i>Glycrrhiza glabra</i>	Root	2 <i>Pala</i>	96 g
<i>Shunti</i>	<i>Zingiber officinalis</i>	Dried rhizome	2 <i>Pala</i>	96 g
<i>Twak ksheeri</i>	<i>Bambusa bambos</i>	Exudate	2 <i>Pala</i>	96 g
<i>Dhatriphala</i>	<i>Embllica officinalis</i>	Fruit juice	1 <i>Drona</i>	12.288 l
<i>Madhu</i>	-	Honey	1 <i>Prastha</i>	768 g

Table 2: Rasapanchaka of the ingredients of Drakshadi Lehya

DRAVYA	RASA	GUNA	VEERYA	VIPAKA	KARMA
<i>Draksha</i> ^[6]	<i>Madhura kashaya</i>	<i>Snigdha Guru Sara</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Brimhana, Chakshushya, Sramahara, PittaRaktashamaka, Tridosahara</i>
<i>Sarkara</i> ^[7]	<i>Madhura</i>	<i>Snigdha</i>	<i>Seetha</i>	<i>Madhura</i>	<i>Chakshushya, Dhaturvardhaka, Hridya, Pittahara, Vatahara</i>
<i>Kana</i> ^[8] (<i>Pippali</i>)	<i>Katu Tikta Madhura</i>	<i>Snigdha Laghu</i>	<i>Anushna</i>	<i>Madhura</i>	<i>Vatahara, Kaphahara, Dipana, Ruchya, Rasayana, Hridya, Tridosahara, Rechana</i>
<i>Madhuka</i> ^[9]	<i>Madhura</i>	<i>Snigdha Guru</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Vatapittajith, Raktaprasadana, Balya, Varnya, Chakshushya</i>
<i>Shunti</i> ^[10]	<i>Katu</i>	<i>Laghu Snigdha</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Dipana, Pachana, Anulomana, Amadoshahara, Vatakaphapaha, Hridya</i>
<i>Twak ksheeri</i> ^[11] (<i>Vamsalochana</i>)	<i>Madhura, Kashaya</i>	<i>Laghu Ruksha</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Kaphapitta Samaka, Chedana, Kushtaghna, Raktavikaragna, Vranagna, Sothaghna, Basthisodhana</i>
<i>Dhatri phala</i> ^[12] (<i>Amalaki</i>)	<i>Lavana varjitha Pancha rasa</i>	<i>Guru</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Tridosha Hara, Vayasthapana, Chakshushya, Raktapittasamaka, Pramehaghna, Rasayana, Jwarahara</i>
<i>Madhu</i> ^[13]	<i>Madhura Kashaya</i>	<i>Laghu Guru Ruksha Pichila Yogavahi</i>	<i>Sheeta</i>	<i>Katu</i>	<i>Agnidipana, Chakshushya, Pittaprasamana, Prasadana, Sleshmaprasamana, Sodhana, Tridoshaprasamana, Vatapittagna, Vishagna</i>

Table 3: Chemical constituents and Pharmacological activities of the ingredients

Ingredient	Botanical name	Chemical constituents	Pharmacological activities
Draksha	<i>Vitis vinifera</i> ^[14]	Flavonoids – Quercetin, Kaempferol, Myricetin, Polyphenols - Catechins and Procyanidins, Anthocyanins, Stillbane derivatives -trans Resveratrol	Antioxidant, Hepatoprotective, Anticarcinogenic, Antimicrobial, Antiviral
Kana	<i>Piper longum</i> ^[15]	Piperine, piperlongumine, piperlonguminine, tetrahydropiperine, Lignans like Sesamin, fargesin	hepatoprotective, antioxidant, anti-inflammatory, immunomodulatory activity, and bioavailability enhancer
Madhuka	<i>Glycyrrhiza glabra</i> ^[16]	Triterpene, saponins, flavonoids - liquiritin and isoliquiritin, polysaccharides, amino acids, mineral salts, essential oil, sterols, volatile oils, tannins, glycosides, glycyrrhizin, glycyrrhetic acid, glabridin, isoflavones, and hispaglabridins A and B	Antioxidant, Anti-inflammatory, Antimutagenic, Hepatoprotective, Immunomodulatory activity.
Shunti	<i>Zingiber officinalis</i> ^[17]	Gingerols - 6-gingerol, 8-gingerol, and 10-gingerol and their corresponding paradols and shogaols, quercetin, zingerone, zingiberene	Antioxidant, Anti-inflammatory, Antimicrobial activity, Hepatoprotective activities
Thugaksheeri	<i>Bambusa arundinaceae</i> ^[18]	Oxalic acid, reducing sugar, resins, waxes, HCN, benzoic acid, diferuloyl arabinoxylanhexasaccharide, diferuloyl oligosaccharide, taxiphyllin	Antiapoptotic, Anti inflammatory
Dhatri	<i>Emblica officinalis</i> ^[19]	Emblicanin A and B, punigluconin, pedunculagin, geranin, isochorylagin, corylagin, chebulanic acid, gallic acid, methyl gallate, ellagic acid, chlorogenic acid, chebulic acid, quercetin, kaempferol, linolenic acid, linoleic acid, oleic acids, Phyllantidine, phyllantine and tannins including chebulagic acid, chebulinic acid, ellagic acid, trigallayl glucose, 3,6-di-O-galloyl-D-glucose, and 1,6-di-O-galloyl-b-D-glucose	Antioxidant, Anti-Inflammatory, Immunomodulatory activity, Hepatoprotective and Laxative.

Method of preparation

Sugar is added to the *Amalaki* juice and cooked until it reaches the *Paka Lakshana* mentioned in *Samhitas* and then the other ingredients which are finely powdered are to be added in prescribed quantity and mixed well. After it cools down, one *Prastha* of honey is added and blended to form a uniform mixture.

DISEASE REVIEW

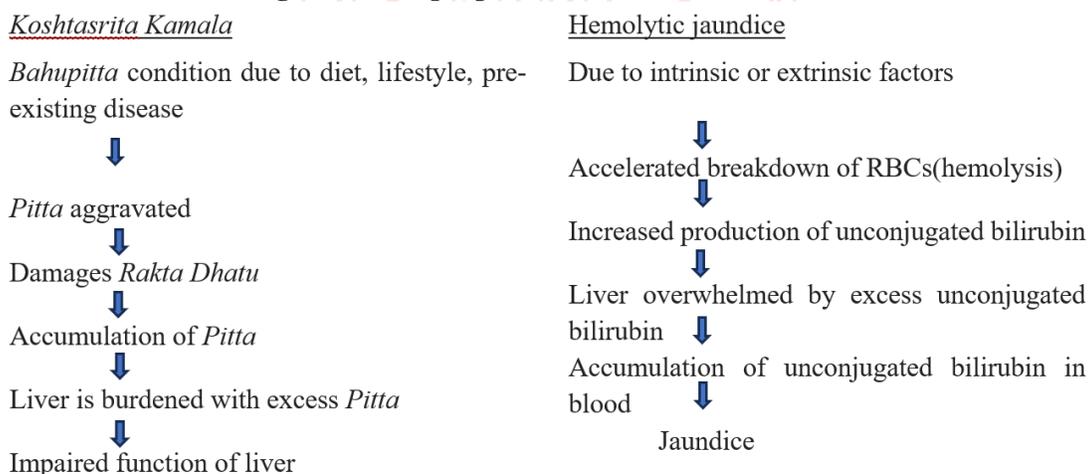
Yellow discoloration of the tissues is termed as Jaundice/ Icterus. Jaundice is classified into pre hepatic, hepatic and post hepatic. Hemolytic jaundice is a pre-hepatic jaundice and its causative factors may intrinsic like auto immune conditions, sickle cell disease, thalassemia, G6PD deficiency or extrinsic like infections, toxins. Hemolytic jaundice occurs when there is the excessive breakdown of RBCs leading to an overload of bilirubin beyond the liver's capacity to conjugate and excrete the bilirubin. This in turn leads to an increase in the levels of unconjugated bilirubin in bloodstream, causing yellow coloration of skin and eyes. Dysfunction in prehepatic phase of bilirubin production also results in elevated serum levels of unconjugated bilirubin. Scleral icterus (yellowing of sclera) is seen when serum bilirubin levels exceed 3mg/dl, the normal being below 1 mg/dl. If the bilirubin level rises further, the skin changes its color from yellow to apple green. Icterus is the indicator of liver disease.^[3]

According to Charaka, when a person with *Panduroga* follows a diet and lifestyle that aggravate *Pitta*, the *Pitta* thus aggravated, severely affects the blood and muscle tissues to give rise to the condition- *Kamala*. His senses get impaired and is associated with burning sensation, indigestion, weakness, malaise and anorexia. The vitiated *Pitta* mixes with *Ranjaka Pitta*, leading to yellow discoloration of the eyes, skin, urine, and nails. The complexion turns yellow, resembling a rainy season frog (*Bheka varna*). *Sushruta and Vagbhata* states that *Kamala* may occur with/ without pre-existing *Panduroga*. If the *Kamala* is due to *Alpapitta Prakopa*, independently without pre-existing *Panduroga*, it is considered as *Swatantra Kamala* or *Alpapitta Kamala* and if it is preceded by *Panduroga*, it is *Paratantra Kamala* or *Bahupitta Kamala*.

DISCUSSION

In *Koshtasrita Kamala*, the *Nidana* leads to aggravation of *Pitta* which in turn causes abnormality in *Rakta Dhatu*, due to *Asraya-Asrayi Bhava*. The impaired *Pitta* and *Rakta* vitiate its *Moolasthanas*- *Yakrit* and *Pleeha*, leading to improper *Dhatu Parinama*. The symptoms like the yellow discoloration of the eyes, skin, urine, and nails show the involvement of the vitiated *Ranjaka, Brajaka, and Alochaka Pitta*. When *Pitta* undergoes *Prakopa*, it vitiates all the *Pittas* at different levels. *Ranjaka Pitta* is that which governs metabolism, and its vitiation can cause increase in *Dravatva* of *Pitta* leading to *Agnimandhya* at *Jataragni* level, thus manifesting symptoms like indigestion and anorexia. Here, the *Pitta* gets vitiated in its *Karma* i.e. dysfunction of *Pitta* occurs. This leads to building up of toxins or *Ama* in the body and causes impairment of *Dhatvagni* which results in improper nourishment of *Uttarothara Dhatus*. Improper transformation of *Rasa* mediated by vitiated *Ranjaka Pitta*, leads to the production of poorly formed *Rakta Dhatu*. The vitiated *pitta* may also burn up the *Rakta Dhatu* affecting its normal production, stability, quality leading to its deterioration. *Raktakshaya* also leads to weakness and diminished sensory perception. The increase in the *Paithika Gunas* like *Ushna* and *Theekshna* may cause the feeling of heat and burning in gastrointestinal tract and all over the body. Further, the *Ojas*, which is the essence of the *Sapta Dhatus* is affected and it causes diminution in functions like vision, hearing and mental clarity.

Figure 1: Samprapthi of Koshtasrita Kamala



The pathogenesis of *Koshtasritha Kamala* involves the disturbance of *Pitta* and *Ama* formation, leading to systemic effects. *Yakrit*, being the *Moolasthana* of *Raktavaha Srothas*, can be considered as the primary site where the transformation of *Rasa* into *Rakta* occurs, so its dysfunction significantly disrupts the transformation of subsequent *Dhatus*. Since *Rakta Dhatu* is vital for carrying the nutrients, maintaining health of *Yakrit* is important. So, here, the treatment should involve drugs that can pacify the vitiated *Pitta*, correct the *Agni*, provide nourishment to the *Dhatus*, and also protect and detoxify the liver.

Analyzing the effect of individual ingredients in managing the symptoms of Koshtasritha kamala: Draksha:

The *Sheeta Veerya* and *Madhura Rasa* makes it highly beneficial in pacifying the aggravated *Pitta*, which is the main dosha involved in the pathogenesis of *Kamala*. The *Pitta-Rakta Shamaka* properties might help in pacifying the symptoms of *Kamala* and *Brimhana* action provides nourishment and alleviates the malaise and weaknesses. Flavonoids like

Quercetin and Kaempferol possessing strong anti-oxidant properties helps to reduce the oxidative stress in the liver cells, Myricetin helps reduce inflammation in liver and Polyphenols like Catechins and Procyanidins helps in reducing liver damage. Anthocyanins are also having anti-oxidant properties while Stillbane derivatives like Resveratrol have hepatoprotective, anti-oxidant and anti-inflammatory activity, which can be helpful in liver conditions.

Sarkara

The *Pittahara* properties along with *Madhura Rasa* and *Sheeta Veerya* helps in soothing the burning sensation and inflammation. The *Dhatuwardhaka* action helps in nourishing the blood and muscle tissues, counteracting the general weakness and malaise seen in *Koshtasrita Kamala*. *Sarkara* is generally sucrose, a disaccharide which gets rapidly absorbed into the bloodstream and provides instant energy, rehydration and also supports liver function.

Kana

Kana enhances digestion (*Dipana*) which helps to address the anorexia and indigestion that accompany jaundice. Its *Tridoshahara* property balances the three doshas and supports the liver function, while its *Rasayana* effect aids in rejuvenating the body after disease. Active components like Piperine, Piperlongumine, and lignans like Sesamin, fargesin has hepatoprotective, antioxidant, anti-inflammatory activities. Tetrahydropiperine exhibits antioxidant and bioavailability enhancing properties. Thus, Piper longum has many important medicinal roles along with immunomodulatory activity.

Madhuka

Madhuka's Raktaprasadana action purifies the blood and is effective in reducing the toxic buildup of bilirubin. Its *Sheeta Veerya* helps in cooling the body and soothing the burning sensations caused by aggravated *Pitta*. It also strengthens the body (*Balya*) during recovery from jaundice. It contains Triterpene, saponins, flavonoids - liquiritin and isoliquiritin, polysaccharides, amino acids, mineral salts, essential oil, sterols, volatile oils, tannins, glycosides, glycyrrhizin, glycyrrhetic acid, glabridin, isoflavones, and hispaglabridins A and B which exhibits antioxidant, anti-inflammatory, antimutagenic, hepatoprotective, immunomodulatory activities.

Shunti

Shunti's Dipana and *Pachana* actions improve digestion and metabolism, which are often compromised in jaundice. Its ability to alleviate *Vata-Kapha* doshas helps address the associated weakness and digestive issues. The phenolic compounds in ginger are mainly gingerols, shogaols, and paradols which exhibit anti-inflammatory, anti-oxidant and hepatoprotective activity. There are also many other phenolic compounds in ginger, such as quercetin, zingerone, zingiberene (terpene component) with strong anti-oxidant, anti-inflammatory properties.

Twaksheeri (vamsalochana)

Twak Ksheeri's Kapha-pitta Samaka property balances both *Kapha* and *Pitta*, which are disturbed in *Kamala*. Its *Raktavikaragna* action is useful in treating blood-related disorders like *Kamala* by

purifying the blood and reducing bilirubin accumulation. The silicious substance found near the joint inside is a white camphor like crystalline in appearance, slightly sticky to the tongue and sweet in taste is taken. The shoot has active constituents are Oxalic acid, reducing sugar, resins, waxes, HCN, benzoic acid, Di feruloyl arabinosyl hexasaccharide, di feruloyl oligosaccharide, taxiphyllin. It shows properties like, anti-inflammatory activity, antiulcer, and antiapoptotic effects. Antiapoptotic effects are beneficial because they help preserve liver cells that might otherwise be lost due to excessive apoptosis caused by inflammation, oxidative stress, or other damaging factors.

Dhatri

Dhatri's (Amalaki) Rakta-pittasamaka action directly combats the elevated *Pitta* and associated blood disorders seen in *Kamala*. Its *Rasayana* property helps in overall rejuvenation of the body, making it ideal for post-jaundice recovery. Bioactive components of its fruit include a group of phenolic compounds (tannins, phenolic acids, and flavonoids), alkaloids, phytosterols, terpenoids, organic acids, amino acids, and vitamins. This plant contains phytochemicals such as fixed oils, phosphatides, essential oils, tannins, minerals, vitamins, amino acids, fatty acids, and glycosides, among others. It has varied medicinal properties such as antioxidant, anti-inflammatory, immunomodulatory activity, hepatoprotective and laxative.

Madhu

Agni Deepana action of *Madhu* helps in relieving the *Agnimandhya* present in *Koshtasritha Kamala*. It pacifies the aggravated *Pitta* and reduces the inflammation. It helps in the *Prasadana of Raktadhatu*. Two main bioactive molecules present in honey are Flavonoids and polyphenols, which act as antioxidants. Monosaccharides like fructose and glucose contributes to the most of the nutritional and physical effects of honey^[20].

The therapeutic effect of the formulation is the synergistic and complimentary action exhibited by the ingredients in combination. Therefore, the probable mode of action of *Drakshadi Lehya* is explained as follows:

Probable mode of action of *Drakshadi Lehya*:

Avaleha is a preparation that has better absorption in the oral cavity due to the high permeability of the oral mucosa and the salivary enzymes which helps in the initial digestive process of the same. The bioavailability of the drug is enhanced by the stable conditions in the oral cavity like the pH and moisture. The enzymes in the stomach and small intestine

further breaks down the components of the *Avaleha* and they are absorbed into the system.^[21]

Drakshadi Lehya contains 7 drugs which are predominantly useful in treating various hepatic conditions. These ingredients pacifies *Tridoshas* and has antioxidant, rejuvenative, hepatoprotective properties along with laxative effect. By these properties it eliminates the vitiated *Pitta* from the *Koshta* and expels them out of the body, thus relieving the symptoms of *Kamala*. On analyzing the individual drugs, they are mostly *Madhura-Kashaya Rasa* predominant, while 2 of them have *Katu Rasa*. The *Kashaya Rasa* helps in controlling the excess bile flow and *Madhura Rasa* provides a nourishing and rejuvenating effect. Most of the drugs are of *Tridoshasamaka* in nature and helps in overall metabolic balance. Based on the properties most of the drugs in *Drakshadi Lehya* are *Sheeta Veerya*. The *Sheeta Veerya* of drugs helps to reduce the *Theekshna-Ushna* property of the vitiated *Pitta*, reduces the burning sensation and soothen the body. They are all *Madhura* in *Vipaka*, which helps in reducing the heat and burning sensation produced due to the aggravated *Pitta*. This *Madhura Vipaka* of the drugs has a nourishing action on the dhatus. Nourishing and strengthening action are essential in curing the symptoms like fatigue, weakness and impaired senses. This also helps to restore the *Ojas* which is depleted in *Pittaja Vikaras*. So, these are most efficient in pacifying *Pitta Dosha*, the main cause of many liver disorders. The symptoms like anorexia, weakness, malaise etc. could be reduced by the *Agni Deepana* action of *Shunti* and *Pippali*. The nutritive and rejuvenative properties of *Drakshadi Lehya* may help to improve the proper formation of *Dhatus* right from *rasa* itself.

From the Gas chromatography-mass spectrometry study on *Drakshadi Lehya*, many active components were found that can be considered for their therapeutic potential in treating *Kamala*. These mainly include components like Cyclopentane, 1-acetyl-1,2-epoxy and H-Pyran-4-one, 2,3-dihydro-3,5 dihydroxy-6-methyl, Asarone, Tetra decanoic acid, exhibiting strong antioxidant activities which reduces oxidative stress on liver. Benzoic acid, Asarone, ethyl ester and coumarin has anti-inflammatory action. Asarone also acts as a neuroprotective. 1-Adamantanamine, N,N-dimethyl reduces oxidative stress and liver inflammation. 1H-2-Indenone, 2,4,5,6,7,7a-hexahydro-3-(1-methylethyl)-7a-methyl, which is a hemoglobin inducer, helps in increasing hemoglobin levels, can be beneficial in conditions like hemolytic jaundice, where red blood cell destruction leads to a drop in hemoglobin. n-

Hexadecenoic acid present in this has anti-inflammatory, GABAergic activity. Cis-13-Octadecanoic Acid, Octadecanoic Acid and Hexadecanoic Acid, 1-(hydroxymethyl)-1,2 ethanediyl ester are found to be acidifiers and arachidonic acid inhibitor, and hence they can help reduce inflammation and oxidative stress in the liver, which is crucial when the liver is overwhelmed by excess bilirubin production due to hemolysis. By supporting amino acid metabolism and inhibiting uric acid production, this compound alleviates stress on the liver, allowing it to detoxify more effectively. Components like Benzoic Acid, 3,4,5-trimethoxy-2-nitro-, methyl ester and 3-(3-Hydroxy-4-methoxyphenyl)-L-alanine help in managing the inflammatory pathways and oxidative damage, benefiting the liver during hemolytic stress^[22]. The oxidative stress caused by the excessive hemolysis is reduced by the antioxidant activity of the drug. They neutralize the free radicals produced and reduce the oxidative damage in the hepatic cells and reticuloendothelial cells. Thus, they support the liver function during bilirubin overproduction. Hemolytic jaundice causes inflammation since the liver and spleen has to struggle to cope with the excessive breakdown of RBCs. The anti-inflammatory action of the drug can help to reduce this inflammation, thereby decreasing the body's stress response to high bilirubin levels. In severe jaundice, neurological complications like kernicterus may be seen in response to high bilirubin levels, which can be minimized by the neuroprotective activity of the drug. In hemolytic jaundice, the RBCs are destroyed faster than they are produced. The hemoglobin inducers present in the drug helps in the hemoglobin synthesis, thus supporting the recovery from anemia associated with haemolytic jaundice.

CONCLUSION

Drakshadi Lehya is an effective formulation in managing *Koshtasritha Kamala*. The ingredients work synergistically to balance the aggravated *Ranjaka Pitta* which is important in the pathology of *Koshtasritha Kamala*. In the prehepatic phase of jaundice, particularly in haemolytic jaundice, *Drakshadi Lehya* is an effective drug of choice ensuring better liver function and fast recovery from jaundice, as it supports the production and quality of *Rakta Dhatu*. The components present in it, with their anti-inflammatory, enzyme-inhibitory and liver-protective properties can potentially reduce liver inflammation, enhance detoxification, and support liver function during the heightened stress caused by hemolysis. It also helps in reducing the systemic effects of excessive RBC breakdown.

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