

Conceptual Study of Kamala and Understanding the Role of Panchakarma in Kamala W.S.R to Jaundice

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ABSTRACT

Kamala is a Pittaja Nanatmaja and Raktapradoshaja Vikara. Charakacharya considered Kamala as advanced stage of Pandu Roga. Sushrutacharya and Vagbhatacharya considered Kamala as separate disease and also may be due to further complication of Panduroga. The main Signs and symptoms of kamala are haridra netra , twak, nakha, peeta shakrut mutra, dourbalya, aruchi etc. On the basis of similarity of signs and symptoms like yellowish discolouration of skin (haridraTwak), Sclera (Netra), Urine (peeta Mutra), Stool (peeta Purisha) it can be correlated with jaundice (HYPRBILIRUBINEMIA). The incidence of jaundice is approximately 40, 000 per 100, 000 individuals of intensive care unit patients. The causes of jaundice is both due to jaundice as the primary reason for ICU stay or as a morbidity to an underlying disease (i.e. sepsis).Men have an increased prevalence of alcoholic and non-alcoholic cirrhosis, chronic hepatitis B, malignancy of pancreas, or sclerosing cholangitis. In contrast, women demonstrate higher rates of gallbladder stones, primary biliary cirrhosis, and gallbladder cancer. In all the above said disorders jaundice is one of the main symptom.

Ayurveda literature clearly explained pathology, treatment of Kamala Vyadhi such as Snehapana, virechana, nasya, anjan and shamanoushadi according to the avastha of the vyadhi, which shows the specificity of Ayurveda. This article revolves around the causative factor , pathology, and it's management .An attempt has been made to find out likely solutions for kamala through Panchakarma.

How to cite this paper: Dr. Nisarga | Dr. Doddabasayya | Dr. Shilpa Sree. K "Conceptual Study of Kamala and Understanding the Role of Panchakarma in Kamala W.S.R to Jaundice" Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-9 | Issue-2, April 2025, pp.266-273, URL: www.ijtsrd.com/papers/ijtsrd76320.pdf



IJTSRD76320

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KEYWORDS: Kamala vyadhi, Snehapana, Virechana, Nasya, Anjana, Jaundice

INTRODUCTION

Rakta is considered as Jiva (Prana) of living creature. In its Prakruta Avastha, it endows with strength, complexion, happiness and longevity and plays an important role in the sustenance of life, When vitiated causes disease such as Pandu, Kamala etc¹.

The word Kamala is derived from the root word Kamu which means Kaanthi. The term Lunathi means Nasha. And Kaanthim Lunathi means, a pathological condition in which normal colour of a skin is lost²

In Ayurveda, Kamala is the disease related with Pitta Dosha. It is included under Pittaja Nanatmaja Vyadhi³and Raktajapradoshaja Vyadhi⁴. It is a disease of Raktavaha Srotas. Yakrut (liver) and

Pleeha (spleen) are the Moola of Raktavaha Srotas⁵. Acharya charaka considered Kamala as an advance stage of Pandu Vyadhi. when Pandu Rogi who cured from Pandu continues to take Pitta Vardhak Ahara then this causes excessive aggravation of Pitta Dosha and gives rise to Kamala⁶. Acharya Sushruta and Acharya Vagbhata has considered Kamala as separate disease and also may be due to further complication of Panduroga^{7,8}. Ranjaka Pitta And its Sthana Yakrut are also involved in its Samprapti. Ranjaka refers to bile pigments. Pitta refers to bile salts. Bile salts have choleric action that stimulates the secretion of bile from liver. It is this Ranjaka Pitta, which provides an exceedingly valuable tool for the diagnosis of both

Koshthashrita Kamala as well as Shakhashrita Kamala⁹. Kamala is a term used in Ayurveda to describe a disease which resembles Jaundice.

Jaundice is a clinical manifestation of disorders of underlying bilirubin metabolism, hepatocellular dysfunction, or biliary obstruction. Tissue deposition of bilirubin occurs only in the presence of serum hyperbilirubinemia and is a sign of either liver disease or less often a haemolytic disorder. Jaundice can develop in people of all ages and is normally the result of an underlying condition. New-borns and older adults have the highest likelihood. Presence scenario, industrialization brings a lot of changes in our lifestyle and especially in our food eating habits. Most of the people have become used to spicy fast-food day by day. This change in lifestyle invites various diseases. Also, there is increased prevalence of hepatitis due to increased population living in congested area, poor sanitation consumption of unhygienic food and polluted water etc¹⁰

Ayurveda believed in treating the disease by removing the disease from its root by shodhana ("jita samshodhanaishu na tesham punarubbhavaha")¹¹

Ancient Acharyas have mentioned mrudu virechana, nasya and anjana as different shodhana measures in kamala.

Liver (Yakrit) is the Mula-Sthana of Rakta. Rakta-Pitta has Ashray and Ashraayi Sambhanda hence for elimination of vitiated Pitta Dosha Virechan is the best Chikitsa¹²

Nasya is a form of Shodhan, particularly Rechna nasya, that causes accumulated Mala Ranjka Pitta to be excreted through the nose. Nasya is referred to as "Nastah Pracchardan" by Charaka¹³

Kriyakalpa are well designed procedures to treat ocular disorders. Among them Anjana is used for both ocular as well as systemic diseases. Thus Anjana is mentioned in netra vikaras. as well as in some of systemic disorders. Hence by application of anjana it helps in eliminating the excess bilirubin.

Aim and Objective-

To understand the concept of Kamala.

To understand the concept of management of Kamala through panchakarma

MATERIALS AND METHODS

1. Charak Samhita with Ayurved Dipika Commentary by Chakrapani.
2. Sushruta Samhita with Nibandhsangraha commentary of Shri Dalhanacharya and Nyayachandrika Panjika of Shri Gayadasachary.
3. Ashtang Hridaya with commentaries Sarvangasundara of Arundatta and Ayurved rasayana of Hemadri.
4. Bhavaprakasha, Yogaratnakara, Bhaishajya ratnavali,
5. Relevant articles published in various national and international journals.

TYPES OF KAMALA -

Types of Kamala	C.S 9	S.S 7	A.H 8	M.N 14	Sh.S 15	Bh.P 16
KOSHTASHAKHASHRITAKAMALA	+	+	+	+		+
SHAKHASHRITA KAMALA	+	+	+	+		+
KUMBHAKAMALA	+	+	+	+	+	+
HALIMAKA	+	+	+	+	+	+
LAGHARAKA		+				+
APANIKA		+				
ALASYAKA		+				

NIDANA PANCHAKA

NIDANA PANCHAKA	KOSHTASHAKHASHRITAKAMALA /BAHUPITTA KAMALA 9	SHAKHASHRITA KAMALA/ RUDDHA PATHA KAMALA 17
1.Nidana	AHARAJA-Atisevana of kshara, amla, lavana, ushna, viruddhanna, Vidagdhaanna, asatmya bhojana, nishpava, masha pinyaka, tilataila sevana VIHARAJA-ativyayama, ati maithuna, diwaswapna, vegadharana Manasika - kaama, chinta, bhaya, krodha, shoka	AHARAJA - Atisevana of ruksha, sheeta guna and madhura rasa ahara VIHARAJA - Ativyayama, vegadharana

2.SAMPRAPTI	<p>Pandu rogi pitta ahara vihara sevana</p> <p>↓</p> <p>Increased ushna, teekshna guna</p> <p>↓</p> <p>Dushta ahara rasa</p> <p>↓</p> <p>Pachakapittadushti, rasadushti- agnimandya</p> <p>↓</p> <p>Rakta mamsa vidaha</p> <p>↓</p> <p>Yakritagamana</p> <p>↓</p> <p>KOSHTASHAKHASHRITA KAMALA</p>	<p>Nidana sevana</p> <p>↓</p> <p>Vata and kapha prakopa</p> <p>↓</p> <p>Ruksha guna vata dosha gets kapha sammurchita</p> <p>↓</p> <p>Obstruction of passing of pitta in koshta</p> <p>↓</p> <p>Vimargagamana of pitta all over the body</p> <p>↓</p> <p>Haridra twacha, netra, mutra</p> <p>↓</p> <p>SHAKHASHRITA KAMALA</p>
3. LAKSHANA	<p>Haridra- netra, twacha, mukha, nakha, mutra</p> <p>Raktapeeta - mutra, mala</p> <p>Daha, avipaka, dourbalya, krusha, tandra, Balakshaya, trisha, indriyadourbalya, bhekavarna, panduvadana</p>	<p>Haridra -netra, twacha, mutra</p> <p>Shweta varchas, tilapishta varchas</p> <p>Atopa, vishtambha, hridaya guruta, dourbalya, alpagni, parshwa arti, hikka, shwasa, aruchi, jwara</p>

SAMPRAPTI GHATAKA -

1. Dosha-Pitta.
2. Dushya-Rakta and Mamsa.
3. Agni - Agnimandhya
4. Srotas- Rasavaha srotas, Raktavaha srotas, Annavaha srotas, Purishvaha srotas.
5. Srotodushti- Atipravritti, Sanga, Vimarga gamana.
6. Adhithana-Kostha(Mahasrotasa) and shakha.
7. Swabhava - Chirakari

UPASHAYA -

Purana Shali, Purana Yava, Purana Godhuma, Mudga yusha, Adhaki yusha, Masura yusha, Jangala mamsa rasa, Mrudvika rasa, Amalaka rasa

ANUPASHAYA -**Aharaja Apathya**

Ahara Dravya: Shimbi dhanya, Vidahi Dravya, Guru Ahara, virudha ahara, teekshana lavana Dravya:Masha, Hingu, Pinyaka, Tambula, Sarshapa

Drava Dravya: Dustambu, Sura, Vindya Adrija, Nadi jala, Amla souviraka, Bijapura Taila

Viharaja Apathya - Panchakarma:Raktamokshana, Dhumpana, Swedana, Vamana vegadharana, Mrudbhakshana, Maituna, Atapa, Ayasa, Vanhi Sevana

Manasika Apathya - Krodha

JAUNDICE 18 -

Jaundice is the yellow color of skin and mucous membranes due to accumulation of bile pigments in blood and their deposition in body tissues.

Jaundice can be recognized when the serum bilirubin rises to 2 to 25 mg/dl, experienced clinicians often cannot see a yellow skin coloration until the serum bilirubin is at least 7 to 8 mg/dl.

PATHOLOGY 19 -

Bilirubin is the yellow breakdown product of normal heme catabolism caused by body's clearance of aged RBCs which contain haemoglobin. Bilirubin works as cellular antioxidant.



Haemoglobin is broken down to heme and globin portion. The globin portion is a protein that breaks down into amino acids and plays no role in the pathogenesis of jaundice.



The heme, on the other hand, undergoes oxidation reaction catalysed by the enzyme oxygenase to give biliverdine, iron and carbon monoxide.



Biliverdine yield a yellow pigment called bilirubin (unconjugated).



In the liver, the bilirubin is conjugated with glucornic acid to give conjugated bilirubin which is water soluble that can be excreted.



Bacteria in the intestine convert the bilirubin into urobilinogen.



This urobilinogen is then either converted into stercobilinogen or excreted in the feces or it is reabsorbed by the intestinal cells and taken to the kidneys via the blood to be excreted in the urine.



In this way, normally the liver metabolizes and excretes the bilirubin in the form of bile.



However, if there is disruption in this normal metabolism production of bilirubin, Jaundice

TYPES OF JAUNDICE -

	PRE HEPATIC JAUNDICE	HEPATIC JAUNDICE	POST HEPATIC JAUNDICE
1. CAUSE	Increased destruction of RBC	Liver damage	Obstruction of bile duct
2. SERUM BILIRUBIN	unconjugated	Unconjugated + conjugated	conjugated
3. Urinary excretion of urobilinogen	Increases	Decreases	Decreases / absent in severe obstruction
4. Fecal excretion of stercobilinogen	Increases	Decreases(pale feces)	Absent (clay colored feces)
5. LIVER FUNCTIONS	normal	abnormal	exaggerated
6. BLOOD PICTURE	Anemia, reticulocytes, Abnormal RBC	Normal	Normal
7. HEMMORHAGIC TENDENCY	Absent	++ due to lack of vit.k	++ due to lack of vit.k
8. COLOR OF URINE	Pale	Dark coloured	Dark coloured
9. COLOR OF STOOLS	normal	Normal to dark	Pale colouredj
10. JAUNDICE	Lemon yellow	Deep yellow	Orange yellow /greenish yellow
11. Serum transaminase	normal	increased	Normal / increased
12. Alkaline phosphatase	normal	Normal /increased	increased
13. Ultrasonogram/ CT	Hepatosplenomegaly	Liver - increased Spleen - N/ increased	Liver increased with dilated ducts

Different shodhana measures in kamala

Shodhana	Charaka	Sushruta	Vagbhata	Yogaratanakara 20	Bhaishajya ratnavali 21and vangasena 22	Bhava prakasha 23
Mrudu virechana	Sneha - 1. Panchgavya Ghrita. 2. Draksha Ghrita. 3. Mahatiktak Ghrita. 4. Haridradi Ghrita. 5. Dadimadi Ghrita. 6. Kalyanaka Ghrita. 7. Danti Ghrita. 8. Katukadi Ghritam. 9. Pathya Ghrita. Virechana - Aragwadha, shunti, pippali, maricha, bilva patra along with ikshurasa, vidari rasa, amalaka rasa 4. Danti (half pala), guda (1 pala) along with sheea jala 5. Trivruth choorna along withTriphala kwatha Halimaka - Trivruth+ Amalaki swarasa	1. Trivruth + sharkara 2. Indravaruni +guda 3. shunti + guda Kumbha kamala - 1. Swarnmakshika + Gomutra, 2. Shilajatu+ Gomutra, 3. Mandura+ Gomutra + Saindhava lavana for 1month, 4. Bibhitaka lavana.	Sneha - Pathya ghrita Virechana - 1. Nikumbha kalka + dwichda 2. Triphala rasa + kshoudra 3. Mridwika + Amalaka rasa 4. Vaaasaadi kwatha + madhu 5. Aaragwadha +aamalaka + vidaarya rasa + tryushana - bilwamatra	" Rechanam kamalartasya snigdhasyaadou prayojayet " Sneha- haridradi ghrita	" Rechanam kamalartasya snigdhasyaadou prayojayet " Sneha- haridradi ghrita, guduchi ghrita Kumbhakamala - shilajatu + gomutra for 1 month Halimaka - Amrutadi ghrita	-
Shodhana Nasya	-	-	-	Arkamula trituated with tandulodaka	Kamalahara nasya - Ghreya - karkotamula or Jaalini phala	with kumarika jala
Anjana	-	-	Kamalahara anjana - Nisha gairika dhatribihi.	Nisha, gairika, dhatri churna + dronapushpi swarasa	Nisha, gairika, dhatri churna + dronapushpi swarasa	Drona pushpi swarasa

Discussion -

All most signs and symptoms of jaundice are much more similar to kamala ailments of Ayurveda in various aspects. The classification of Kamala is based on origin and pathology. It is mainly of two types

koshtashakhashrita kamala and shakhashrita kamala. Koshsthashakhashrita kamala arises due to excess break down of erythrocytes, it is also called bahupittakamala because increase the production of pitta. Shakhashrita kamala arises due to intrahepatic

cholestasis, here the cause of kamala is only reduced excretion of bilirubin so called alpapitta kamala.

Both types of jaundice are very much close to hemolytic and hepatocellular jaundice of modern medical science. Since liver is the largest gland, main site of metabolism and detoxification, the diet should be easily digestible and waste materials are better removed from intestine earlier during jaundiced condition. So Ayurvedic treatment contains those medicine that facilitate removal of waste substance from the gut, kidney and provide instant energy.

1. Mode of action of virechana - The treatment of kosthashakhashrita kamala must start with purgation therapy. The basic theory is that no burden be placed on the liver and for that, virechana karma is recommended. In the process of jaundice development, excessive bilirubin leads to increased production of stercobilin. The virechana procedure with prior snehana helps to remove the excess stercobilinogen and helps in reducing hyperbilirubinemia and ultimately jaundice. The excess removal of stercobilinogen leads to increase the diffusion process of bilirubin to produce stercobilinogen. Excessive bilirubin can be thus diffused into stercobilin and urobilinogen and again removed by the process of virechana karma. In case of jaundice, the nitya virechana thus helps to remove the excess bile from the body.

Shakhashrita kamala needs different principle of management, since malarupa pitta is in shakha and hence virechana will not be effective. So by giving the medicines which alleviate kapha and pitta is brought into koshta then follow the line of treatment of koshtashakhashrita kamala.

2. Mode of action of Shodhana Nasya - it is a form of Nasya that promotes secretions and removes toxins from the body. Nasya is a form of Shodhana, particularly Rechana nasya, that causes accumulated MalaRanjkaPitta to be excreted through the nose. Nasya is referred to as "Nastah Pracchardan" by Charak

Absorption of medicine by Nasal Mucosa—Causing local irritation due to which yellow Nasal discharge starts containing bilirubin —After inflowing systemic circulation has an action on swollen hepatocytes —Improving the condition

Nasal administration of drugs causes stimulation of brain matter resulting in stimulation of Parasympathetic nerves. All the abdominal organs are supplied by Parasympathetic nerves. The stimulation of Hepatic nerve plexus and Vagus nerve stimulates the hepatocytes and contributes

in the hepatic repair. The Swarasa, due to the high concentration of phytoconstituents, when administered in high dose, helps in more stimulation of nerves. The blood supply to Nerve is through Vasa Nervosa. Some amount of the medicine may enter the systemic circulation through this route also.

Lymphatic pathway - From nose, it drains to Sub mental and Sub mandibular lymph nodes. From there, on the right side, it drains into the Right Lymphatic Duct and on the left side it drains into Thoracic duct. Thoracic duct and Right Lymphatic duct open at the junction of internal jugular vein and Subclavian vein, on either side of the body. Thus, joining to the venous drainage. The lymphatic drugs thus enter the venous circulation. The larger plasma proteins or larger molecules passes / are better absorbed through the lymphatics. The nasal cavity is covered by a thin mucosa which is well vascularized. Therefore, a drug molecule can be transferred quickly across the single epithelial cell layer directly to the systemic blood circulation without first pass hepatic and intestinal metabolism. The effect is often reached within 5 min for smaller drug molecules.

3. Mode of action of Anjana - Kriyakalpa are well designed procedures to treat ocular disorders. Among them Anjana is used for both ocular as well as systemic diseases. Thus Anjana is mentioned in netra vikaras. as well as in some of systemic disorders. Hence by application of anjana it helps in eliminating the excess bilirubin.

When any Anjana is applied over eyelids, it causes an increase in blinking and squeezing which propels towards Sac. Now drug passes into Lacrimal sac further it reaches to Nasolacrimal duct and thus reaches to Nasal cavity by then once it comes to contact with the Vascular nasal mucosa, relatively rapid absorption of drugs into blood stream where up to 80% of applied drugs may diffuse into systemic circulation will take place by reaching target tissues. An important property of absorption via this route is bypassing the liver due to this fact, First-pass metabolism is minimized compared to peroral administration.

➤ It's not the only route even when Anjana is applied it will get absorbed through transcorneal absorption further moving into Aqueous humor where some amount of drug is absorbed in the intraocular tissues and rest passes into trabecular meshwork into Episcleral pathway there by distribution into Systemic circulation.

Conclusion -

Kamala is a Pittaja Nanatmaja Vyadhi and Raktapradoshaja Vyadhi, where there is yellowish discoloration of skin, eye and mucous membrane.

Liver (Yakrit) is the Mula-Sthana of Rakta. Rakta-Pitta has Ashray and Ashraayi Sambhanda hence for elimination of vitiated Pitta Dosha Virechan is the best Chikitsa.

Kamala is a disease caused by an overabundance of Mala Ranjak Pitta. Nasya cleanses and energizes the tissues and organs of the head and neck. Shodhan Nasya is a form of Nasya that promotes secretions and removes toxins from the body. Nasya is a form of Shodhan, particularly Rechana nasya, that causes accumulated MalaRanjakaPitta to be excreted through the nose. Nasya is referred to as "Nastah Pracchardan" by Charaka. It means Nasya is shodhan karma, which explains Nasya's position at the systemic level and why sr. bilirubin levels fall.

Thus Anjana is mentioned in netra vikaras. as well as in some of systemic disorders. Anjana is simple therapeutic procedure among the kriyakalpas for the daily usage which will act as a chakshushya. i.e. helps in maintaining good acuity.

The purpose of this topic is to popularize the virechana, nasya, anjana and to create awareness in the society. so that to overcome the lack of practical utility of medicated virechana, Anjana, nasya in clinical practice. of course still more research work is needed to be done on the applied aspects of virechana, anjana and nasya in the management of kamala.

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