

Review article on navajata shishu kamala w.s.r. To neonatal jaundice.

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DOI: <https://doi.org/10.47071/pijar.2025.v10i02.01>

ABSTRACT

Kamala is one of the clinical entities conceived by Ayurveda. Navajata shishu kamala or Neonatal hyperbilirubinemia is a most common clinical finding explained by both Ayurvedic and contemporary sciences. The concept of Kamala dates back since Vedic period but extensive details are available in Ayurvedic Samhitas and later texts. The word “Kamala” denotes “Kayam Malayate iti Kamala”, means disease in which whole body becomes dirty, because of the accumulation of mala i.e. Mala of Ranjaka Pitta. As soon as faetus detaches from the mother he becomes independent to perform all the activities to maintain the life processes. During the process of homeostasis, the reorganization of hemopoetic system adjust itself immediately and as a result Mala of Rakta (Pitta/bile) is released too much and eventually the neonate, being immature to deal with load the Mala (Pitta) circulates in the body & causes jaundice called “Navajata shishu kamala”. Broadly it is of two types: physiological and pathological Jaundice occurred due to reorganization of haemopoetic system called physiological jaundice: topic of this appraisal. Either physiological jaundice is self limiting but can cause various complications in new born if remain untreat. In Ayurveda, it can be treat as pittaj vyadhi, as Charak has mentioned Virechan is the best measure among all treatment of Pitta. A patient of Kamala should be treated initially with mild bitter purgatives (Kamale tu virechane). In physiological jaundice basic impurity is indirect bilirubin which cannot remove from body until it had not change in direct bilirubin that can possible only at liver. So drug used for that should have action of virechan (Remove out) of bilirubin from liver to gut with changing of indirect to direct form.

Keywords: ranjaka pitta, Navajata Shishu kamala, pittaj vyadhi.

INTRODUCTION:

Human body is mainly made up of Tridoshas, Saptadhatus, and Trimalas according to Ayurveda. The Tridosha include Vata, Pitta and Kapha. Acarya Susruta being the father of Shalyatantra gave utmost importance to Rakta along with the Tridoshas. He mentioned that it's the Prana (life) of a Prani (living being) therefore, should be protected from Doosana (vitiation). Kamala is one such Roga (disease) caused by Doosana of Pitta which is in turn caused by Pandu, a disease in which there is Rakta kshaya (reduction). The word kamala refers to "kayam malayate iti kamala.", that which makes the body impure due to the accumulation of Mala. Here the mala refers to the Mala of Ranjaka pitta which gets excessively secreted on transition from fetal to neonatal life which causes the Navajata shishukamala. The article is a literary review on Navajata shishu kamala, Samprapti and its Chikitsa compiling references from the classics.

MATERIALS AND METHODS

Navajata shishukamala is a coined term used to describe Kamala in the newborns, which can be correlated to the neonatal hyperbilirubinemia of modern science.

• Vedas :

Rigveda

This text explains that worshipping lord Surya as the treatment of removing the yellowish discoloration of the body which is known as Harima.

Atharvaveda

The fourth and the last veda of Indian literature explains Kamala in the name of Harima or Panduroga (considering kamala as the further complication of Panduroga). It explains about the Anjana used and its efficacy in Harima,

considers exertion as its Nidana (cause). It also states that Sunrays could effectively treat Harima. We also get the references regarding its treatments such as use of Shuka vrikshas.

• Purana :

Agni Purana explains Lauha churna with Takra for the treatment of Kamala. Jain literatures have used the Harisa and Hariya words to describe Haleemaka. Even Baudha literatures give explanations about Pandu.

• Samhitas :

Brihatrayees

Acharya Charaka has given detailed explanation about the disease Kamala in the context of Panduroga and also Ashtaksheera doshas. while explaining Acharya Susruta mentions Kamala as the synonym of Panduroga, and explains the further stages as Panaki, Kumbha Kamala, Halimaka, Lagharaka and Alasaka and the treatment of kamala. Both Vridha Vagbhata and Laghu vagbhatas have similar opinions. Nidana sthana uses the word Lodhra instead of Kamala.

Laghutrayees:

Madava nidana followed Charaka, Susrutha and Vagbhata and has detailed explanation of Nidana, Rupa and Samprapti⁸. Bhavaprakasha has explained Kamala under the context of Panduroga.

• Other references:

Kashyapa samhita: explained Pandu Kamala under the context of Vedanadhyaya¹⁰. Bhela samhita explains it under Pleeha halimaka chikitsa adhyaya. Hareeta samhita has described 8 types of Pandu which includes 2 types of Kamala and Haleemaka.

NIDANAPANCHAKAS

• Nidana :

Kashyapa samhitha explains that the negligence in intake of food, Jataharini, and Revati graha as the causes of Kamala.

According to Acarya Caraka, consumption of Pita dusta stanya (breast milk vitiated by pita) is the cause of yellowish discoloration of the body which is explained under Ashtaksheera doshas. He also opines that Pandu rogi consuming excessive Pittala Ahara is the root cause of Kamala.

According to Acarya Susruta, Kamala is considered as a synonym of Panduroga due to Aparityaga (not treated) of Panduroga. The Nidanas are, when a Pandurogi consumes Amla rasayukta Anna and Apathyas (unwholesome food) like Madya and when a Pitaja person consumes Pita Pradhana aharas it leads to Kamala.

Acarya Vagbhata also states that, kamala is caused by Atyartha pittaja ahara sevana by a Pandu rogi or by a pitala person it leads to Kamala. Madava Nidana, Yogaratnakara and Bhava prakasha also opines that Pitadusta stanya is the cause of Kamala.

Samprapti:

Raktavaha srotas dushti



Vridi and sancaya of Mala roopa pitta



Sthana samshraya in Twak, Rakta and Mamsa



Navajata shishu kamala

Purva rupa:

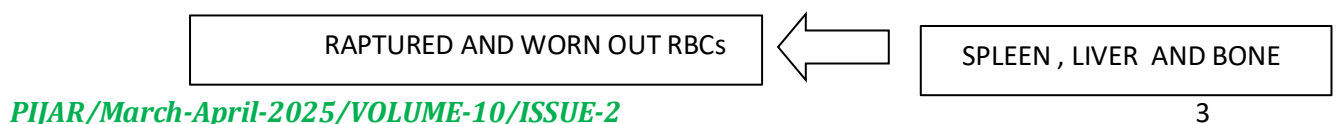
Separate Purvarupas for Kamala has not been mentioned by acharyas. According to Acharya Caraka, Kamala represents a state of Pandu roga with different symptoms whereas Acharya Susrutha considers Kamala as different entity, but do not explain about Purvarupas of it. In Purvarupa of Pandu, he mentions about Vitmootra peetatva.

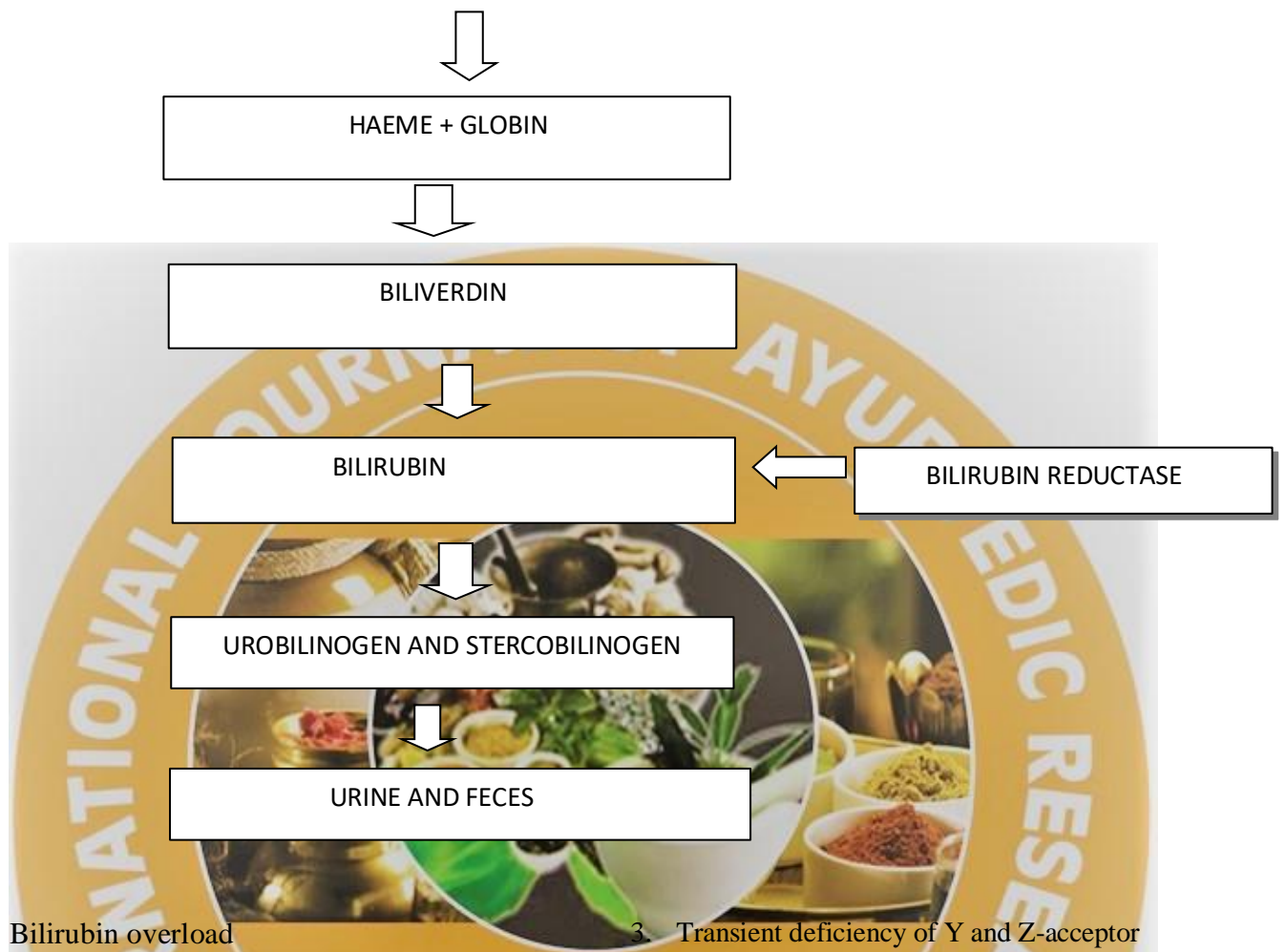
Rupa:

According to Kashyapa samhitha; Haridra netra, Tvak, Nakha, Mukha, Apathy and Nastagni are the features due to unwholesome food regimens. While explaining Jataharini he says that it is responsible for the death of the baby from 1st day to 15th day of life and he opines that such babies will cry loudly with fear, there will be thirst, fever, dryness of palate, horripilation, tonsillitis, and blisters on face, anemia and Jaundice.

Charaka Samhitha describes the Lakshanas as yellowish discoloration of eye, nail and urine.

Pathogenesis of hyperbilirubinemia is explained in figure1.





Bilirubin overload

The rate of haemoglobin production in a newborn is twice as compared to an adult. Every day in a healthy newborn there is a release of 0.5mg/kg of haemoglobin due to physiological polycythaemia and shorter life span of RBCs. One gram of haemoglobin yields about 35mg of bilirubin so that a newborn of 3kg weight yields about 15mg of bilirubin is produced daily from haemoglobin sources. Additional 1mg/kg of bilirubin is produced from non-haemoglobin sources such as myoglobin, cytochromes resulting in net daily load of 20mg of bilirubin to a healthy newborn. The main cause behind the above physiology are,

1. Physiological polycythaemia
2. Shorter life span of RBCs (90 days vs 120 days)

3. Transient deficiency of Y and Z-acceptor proteins and UDP glucuronyl transferase enzyme

4. Paucity of bacterial flora in the gut and overactivity of intestinal betaglucuronidase enzyme (conjugated bilirubin reaching the duodenum rapidly gets deconjugated and enters the enterohepatic circulation)

Samprapti ghatakas

Dosa: Pitta

Dushya: Rakta, Mamsa

Adhistana: Koshta (Yakrit) and Sakha (Rakta and Twak)

Srotas: Rasavaha, Raktavaha, Mamsavaha, Mutravaha and Purishavaha

Srotodusti: Atipravritti and Sanga

Sadyasadyata:

In the initial stages it's considered to be Sukhasadhya later on it turns to be Krichhasadhya and Asadya .

Treatment

Principles of treatment in children are somewhat different from those of others. For children neither desiccation (no Excessive phototherapy) nor excessive cleansing measures and bloodletting (no excessive exchange transfusion) is beneficial. They should be treated only by oral medications, ointments and irrigation with those drugs which are unctuous, cold and sweet and do not produce burning sensation [11].
General principle –

General principles of treatment (Samanya Chikitsa Siddhanta) of Kamala is comprehensive therapeutic regimen consisting of three measures:-

1. Samshodhana
2. Samshamana
3. Nidan Parivarjana

As Charaka has mentioned Virechana is the best measure among all treatment of Pitta, "Virechanam tu Pittasya jayathe paramaushadham". A patient of Kamala should be treated initially with mild bitter purgatives.

Tatrapandwamayee Snigdhashtikshnai Urdhwaanulomikai Samshodhyo Mrdubhih Tiktaih Kamale tu Virechanam. So the treatment of Kamala is –

General Treatment :

1. Shodhana -
 - i. Snehana (Uction)
 - ii. Virechana (Purgation)
2. Shamana: Kapha Pittahara Chikitsa)

(a) Snehana : Before giving Virechana therapy, first patient should be uncted by Snehana therapy with the use of Panchagavya, Mahatikta, Kalyana, Draksha and Dadima Ghritas.

A. Specific Treatment

Single Drugs : Triphala Swarasa . Amrita swarasa, Daruharidra swarasa, Nimbapatra swarasa, Shunthi, Vasa, Bhunimba etc.

Ghrita preparation: Panchagavya ghrita, Kalyanaka ghrita, Katukadi ghrita, Dadimadi ghrita, Mahatiktaka ghrita, Danti ghrita, Haridradi ghrita . Pathya ghrita, Draksha ghrita, Vyoshadi ghrita, Murvadi ghrita.

Phantapreparation: Vishaladiphanta

Churna : Navayasa churna, Bhunimbadi churna, Lawangadi churna

Lauha : Nishalauha, Dhatri Lauha, Navayasalauha, Vidangadi Lauha

Kwatha : Phalatrikadi kwatha . Vasadi kwatha

Arishta : Gaudarishta, Beejagarishta, Dhatriyarishta, Phalarishta, Parpatadyarishta

Avaleha : Amalakiavaleha, Darvyadileha, Drakshadileha, Dhatriyavaleha, Triphaladiavaleha

Mutrprayoga : Gomutra prayoga, Gomutraharitaki, Ksheeramutra prayoga

Rasshastriya Preparation : Mandura bhasma, Mandura vataka, punarnava mandura, Yogaraja, Triphaladi yoga, Swarna makshikadi yoga, Shilajatu prayoga, Kamalantaka Rasa, Pandusudhan rasa, Chandra suryathmaka rasa, puranavallabha rasa, trilokhyasundara rasa, Panchamritalooha mandura, Vajravataka mandura, Triyushanadi mandura, lauhaparpati etc.

Kashyapa has mentioned symptoms of Kamala in Revati graham and prescribed decoction of Ashwagandha, Ajasrunji, both Sariva, both Punarnava, Ksudra, Saha and Vidari for irrigation [23]. Similarly root of Pippali, Ankhotha juice, horse dung along

with curd of buffalo has been prescribed for oral use.

Congenials of kamala rogi

Kamala patients should use only that dietetics which do not vitiate Pitta Dosha and which subsides Kapha. Some specific diets are described by Charaka which are congenial for the patient.

Purana Shali, Mudga, Purana Yava, Masura, Purana Goduma, Jangal Mamsa, Yusha, Adhaki, Patola, Tittiramansa, Apakwa Kadaliphala, Matulunga Rasa, Takra, Kulattha, Bimbiphala, Pippali, Haridra, Maricha, Nagakeshara, Shushka Mulaka.

Non-congenials of kamala rogi

Leafy vegetables (Patrashaka), Pica (Mridabhakshana), Hingu, Lavan rasa, Pinyaka, Amla Rasa, Tambula, Diets which vitiate the Pitta, Sarshapa, Diwashayana (day sleeping), Sura (alcohol), Rakta Mokshana (bloodletting), Dhoomrapana (Smoking), Maithuna (coitus), Vegadharana (suppression of natural urges except coitus).

Signs and symptoms of normalisation of kamala (Mukta Kamala)

By Acharya Charaka these symptoms are -
Apitta Raga (Returns the normal colour)

Vayu Prashamana

Purisha Pitta Ranjeeta (Pale coloration of stool)

Swasthana Agate Pitta (Pitta at normal site)

Nivrita Upadrava (Subsided complication)

RESULTS AND DISCUSSION

Considering the Nidana and Samprapti of Pandu and Kamala, Navajata shishu kamala can be understood as the one caused due to Pitta vridhi and Pitta dusti. The Pitta vardhaka Ahara (Pitta dushta stanya) cause the Lakshanas of Ativridha pitta which can be related as physiological jaundice. The pathological jaundice can be interpreted as, the Pitta prakopaka nidanas (Nija or Agantuja)

causing Pitta dushti and further Rasa, Rakta dushti and causing complications. The treatment approaches should be based on the respective etiopathogenesis.

CONCLUSION

The basic knowledge of the Nidana panchaka of the disease is necessary for the proper diagnostic and treatment approach in every disease condition, especially in newborns. The nidana parivarjana (Pitta samana) holds good in case of Navajata shishu kamala physiological jaundice. particularly in In contemporary sciences the treatments like phototherapy are advised according to the serum bilirubin levels ($>15\text{mg/dl}$) which has its own side effects. Early interventions with Ayurvedic medicines according to the Lakshanas, considering the Bala of the newborn can effectively control the disease. This can even avoid the interventions like phototherapy and further complications like kernicterus.

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Published BY:

*Shri Prasanna Vitthala Education and
Charitable Trust (Reg)*

Source of Support: NIL

Conflict of Interest : None declared