



# An Ayurvedic Approach to Navajatha Shishu Kamala

**Author:** Padmanayana M<sup>1</sup>

**Co Authors:** Prathviraj Puranik<sup>2</sup> and Sharashchandra R<sup>3</sup>

<sup>1-3</sup>Department of PG Studies In Kaumarabhritya, Sri Dharmasthala Manjunatheshwara College of Ayurveda and Hospital, Kuthpady, Udupi, Karnataka, India

## ABSTRACT

*Navajata shishu kamala* or Neonatal hyperbilirubinemia is a most common clinical finding explained by both Ayurvedic as well as contemporary sciences. The yellowish discoloration of the body is due to the breakdown of hemoglobin mainly due to certain conditions like shorter lifespan of RBCs, deficiency of enzyme called G6PD, ABO incompatibility of mother and child. It can be physiological, that which occurs after 3rd day of life or pathological that manifesting within 3 days of life. . Ayurveda explains it as the disease caused by *Pitta dushta stanya* and the *Rakta dushti* leading to yellowish discoloration. Even though there are no chapters regarding *Navajata shishu kamala*, we get scattered references dated to ages. This article is to bring all such scattered references under a shelter.

**Key Words:** *Navajata shishu kamala, Pitta dushta stanya, Rakta dushti, Hyperbilirubinemia*

## 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)<sup>1</sup>. The word *kamala* refers to “***kayam malayate iti kamala.***”, that which makes the body impure due to the accumulation of *Mala*<sup>2</sup>. 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*<sup>2</sup>.

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 worshiping 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*<sup>3</sup>.

#### • 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*<sup>4</sup>.

#### • Samhitas :

##### Brihatrayees

*Acharya Caraka* has given detailed explanation about the disease *Kamala* in the context of *Panduroga* and also while explaining *Ashtaksheera doshas*.<sup>5</sup>

*Acharya Susruta* mentions *Kamala* as the synonym of *Panduroga*, and explains the further stages as *Panaki*, *Kumbha Kamala*, *Halimaka*, *Lagharka* and *Alasaka* and the treatment of *kamala*.<sup>6</sup>

Both *Vridha Vagbhata* and *Laghu vagbhatas* have similar opinions. *Nidana sthana* uses the word *Lodhra* instead of *Kamala*<sup>7</sup>.

#### Laghutrayees:

*Madava nidana* followed *Charaka*, *Susrutha* and *Vagbhata* and has detailed explanation of *Nidana*, *Rupa* and *Samprapti*<sup>8</sup>.

*Bhavaprakasha* has explained *Kamala* under the context of *Panduroga*<sup>9</sup>.

#### • Other references:

*Kashyapa samhita*: explained *Pandu Kamala* under the context of *Vedanadhyaya*<sup>10</sup>.

*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*<sup>4</sup>.

#### NIDANAPANCHAKAS

#### • Nidana :

*Kashyapa samhitha* explains that the negligence in intake of food, *Jataharini*, and *Revati graha* as the causes of *Kamala*<sup>10</sup>.

According to *Acarya Caraka*, consumption of *Pitadusta stanya* (breast milk vitiated by pita) is the cause of yellowish discoloration of the body which is explained under *Ashtaksheera dosas*. He also opines that *Pandu rogi* consuming excessive *Pittala Ahara* is the root cause of *Kamala*<sup>5</sup>.

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 *Pitala* person



consumes *Pita Pradhana ahara* it leads to *Kamala*<sup>6</sup>.

*Acarya Vaghata* also states that, kamala is caused by *Atyarthita pittala ahara sevana* by a *Pandu rogi* or by a *pitala* person it leads to *Kamala*<sup>7</sup>.

*Madava Nidana*, *Yogaratnakara* and *Bhava prakasha* also opines that *Pitadusta stanya* is the cause of *Kamala*<sup>8,10</sup>.

- *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 *Vitmostra peetatva*<sup>5,6</sup>.

- *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 1<sup>st</sup> day to 15<sup>th</sup> 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<sup>10</sup>.

*Charaka samhitha* describes the *Lakshan* as yellowish discoloration of eye, nail and urine<sup>5</sup>.

- *Samprapti:*

*Raktavaha srotas dushti*



*Vridi and sancaya of Mala roopa pitta*

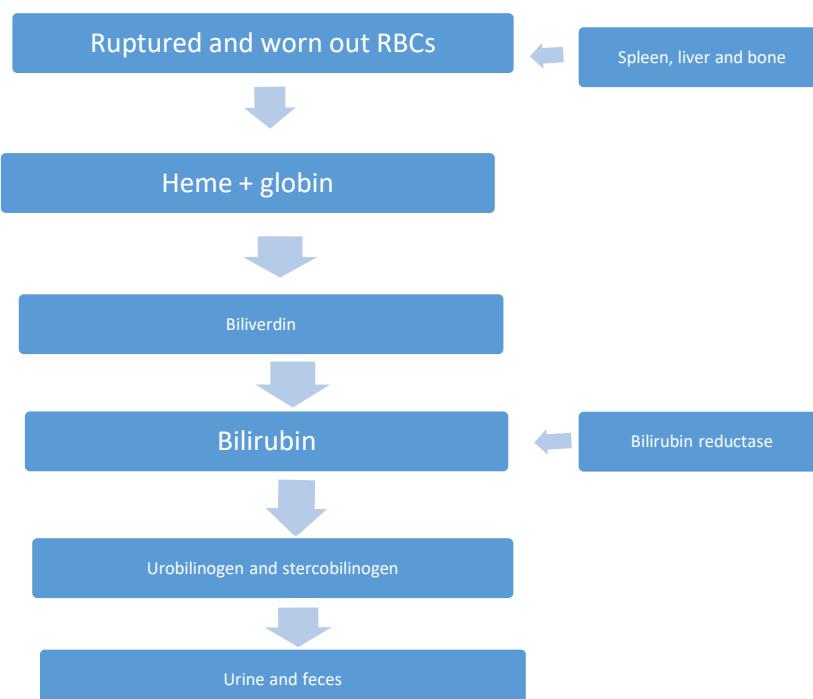


*Sthana samshraya in Twak, Rakta and Mamsa*



*Navajata shishu kamala*

**Pathogenesis of hyperbilirubinemia is explained in figure1.**



**Figure 1** Pathogenesis of hyperbilirubinemia



## Bilirubin overload

The rate of hemoglobin 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 hemoglobin due to physiological polycythemia and shorter life span of RBCs. One gram of hemoglobin yields about 35mg of bilirubin so that a newborn of 3kg weight yields about 15mg of bilirubin is produced daily from hemoglobin sources. Additional 1mg/kg of bilirubin is produced from non-hemoglobin 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 polycythemia
  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)<sup>12</sup>
- *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 *Sukhasadhyा* later on it turns to be *Krichrasadhyा* and *Asadya*.

## TREATMENT

*Samanya cikitsa sidhanata* of *Kamala* can be considered as *Shodhana*, *Samana* and *Nidana parivarjana*. *Caraka Acharya* has clearly mentioned that “***Kamalee tu virechanaihi***” the main line of treatment is *Virechana* as it is the *Paramausadha* for *Pitta*<sup>5</sup>.

In case of *Navajatasisu Kamala*. Considering the *Bala* of *Ksheerapa*, it is advisable to go for *Pitta samaka* and *anuloamaka dravyas* which are *Mridu* in *Guna*. In addition, *Rakta samshodaka Dravyas* can also be advised to prevent further *Raktadusthti*.

*Pitta samaka dravyas* which are *Tikta*, *Kashaya* and *Madhura* in *Rasa*, *Sita* in *Virya* and *Madhura* in *Vipaka* can be used.

For example,

*Amalaki* is *Alavana pancha rasa*, *Laghu guna*, *Sita virya* and *Madhura vipaka*. It possesses the *Karmas* like *Anulomana*, *Yakrit uttejaka*, *Raktaprasadana*, *Rakta-pitta samaka*, *Jeevaneeya*<sup>13</sup>.

*Draksha* is *Madhura rasa*, *Mridu guna*, *Sita virya*, *Madhura vipaka* and has *Anulomana*, *Santarpana*, *Vata-Pitta Samaka* properties<sup>13</sup>.

Such drugs can be used for the treatment in required form and dose.

## KAMALA MUKTA LAKSHANA

According to *Acarya Caraka*, *Apitta raga* (normalization of color), *Vayu Prasama*, *Purisha pitta ranjita* (pale stool), *Swastana agata Pitta*



(*Pitta* at normal site), *Nivrita upadrava* (subsided complication)<sup>5</sup>.

avoid the interventions like phototherapy and further complications like kernicterus.

## 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 *Navajatashishu kamala* particularly in physiological jaundice.

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



## REFERENCES

1. Dalhana Sushrutha samhitha.Vaidya Yadavji Trivikramji Acharya editor. Varanasi: Chaukambha surabharathi prakashana; 2010(3), Chapter 21.
2. Dr. Anju, Dr. Singh Vijender Pratap. (2019). An Ayurvedic review on Navajata shishu kamala; Physiological jaundice, 8(6); 1109-1112.
3. Nirmal kumar, Anil kumar singh. (2013). Kamala (Jaundice)-An Ayurvedic perspective, 2(6): 166-173
4. Nirmal kumar, Anil kumar singh. (2013). Kamala (Jaundice)-An Ayurvedic perspective, 2(6): 166-173
5. Agnivesha.Charaka samhitha.Vaidya Yadavji Trivikramji editor. Varanasi: Chowkamba krishnadasa academy; 2015; P. 528 Chapter 16,
6. Dalhana. Sushrutha samhitha.Vaidya Yadavji Trivikramji Acharya editor. Varanasi: Chaukambha surabharathi prakashana; 2010(3), P. 729-30.
7. Vaghbata. Ashtangahridaya. Murthy K.R. Srikantha editor. Varanasi: Chaukambha Krishna academy; 2010(3); P. 13.
8. Madhavakara. Madhavanidana. Prof. Yadunanda Upadhyaya editor. Varanasi; Chaukambha Prakashana. 2009, Poorvvardha 8/16.
9. Vaidya Lakshmi pati Shastry .Yogaratnakara. Bhisagrantra Brahmarshankara Shastri editor.Varanasi: Chaukambha Prakashana, 2010, Poorvvardha, P.574.
10. Vridha Jeevaka. Kahyapa samhitha.P. V. Thiwati editor. Varanasi: Chaukambha vishwa bharathi orientalia publishers and distributors; 2013. P.56.
11. Singh Meharban. Care of newborn. New Delhi: CBS Publishers and distributors Pvt. Ltd; 2010. P.323.
12. Shastry J.L.N. Illustrated dravyaguna vijnana, Study of essential medicinal plants in Ayurveda. Varanasi: Chaukambha orientallia; 2010(2). P.220 and 673.