

Case Report

# A Critical Clinical Study of Neonatal Jaundice and Its Treatment Modalities through Ayurveda - A Case Study

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## ABSTRACT

This case describes about a 3 days old female newborn with neonatal jaundice. It is achieved by Bala kashaya parishek and sun-light therapy.

**Aim & Objective:** To access the efficacy of cold *Bala Kashaya* in the management of Neonatal jaundice Setting: Neonatal ward of Rajiv-lochan Ayurved medical college & hospital Chandkhuri, Durg (Chhattisgarh)

**Method:** Assessment was done before and after treatment. Result: cold *Bala Kashya* is effective in the management of neonatal jaundice.

**Key Words:** Neonatal jaundice, Parishek by bala oil, sun light therapy.

## INTRODUCTION

Jaundice is the commonest abnormal physical finding during first week of life. Over two thirds of newborn babies develop clinical jaundice and by adult standards almost all newborn babies are 'jaundiced' during early days of life. Yellow discoloration is first evident on the skin of face, nasolabial folds and tip of the nose. It is masked by physiological plethora of newborn and can be brought out by blanching the skin so that underlying yellowness of subcutaneous tissues and blood vessels can be visualized. The severity of jaundice should be assessed in natural daylight by observing cephalocaudal progression of jaundice. The appearance of jaundice on the first day of life is always suggestive of a serious disease process and such a baby should preferably for neonatal

care available. The common cause of jaundice in our country in order of their frequency include physiological jaundice, immaturity, blood group in compatibility between mother and baby, infections both intrauterine and postnatal, G6PD deficiency, subcutaneous bruising and cephalhematoma, drugs and breast milk jaundice. The rate of bilirubin production (6-8 mg/kg/day) is at least twice in magnitude in the normal newborn population as compared to older children. <sup>[1]</sup> Jaundice occurs when the liver cannot excrete sufficient bilirubin from the plasma. Bilirubin is the end product of the catabolism of iron protoporphyrins of heme. The formation of bilirubin from hemoglobin, which occurs in the reticuloendothelial system, involves removal of the iron and protein moieties, opening of the meu-methane bridge of heme

porphyrin. Jaundice may be the earliest and only sign of hepatic dysfunction. [2] It is seen in neonates when the serum bilirubin levels exceed 5-7 mg/dl. [3] Acharya Kashyapa described about the features of *Kamala* in *Vedanadhyaya* as yellow discoloration of the eyes, nails, face, stool and urine with laziness, loss of digestive power, desire to take blood. [4] We get the reference of *Pishachi Jatahariniin KashyapaSamhita*, which is known to its yellow color causes death of the baby after delivery on first day. [5]

## CASE REPORT

A full-term female baby was delivered through LSCS delivery on 17-05-2019 with birth weight 3.2 kg at 39<sup>th</sup> week of gestational age. Baby was cried soon after birth, No any congenital anomalies seen at the time of birth. Vaccination is given. Injection Vit. K 0.1 ml given. Breast feeding started after 2 hour. After 48 hour baby had developed mild yellow discoloration in whole body, after investigation baby was diagnosed as late neonate baby with physiological jaundice.

### Antenatal History:

Age of mother at the time of conception was 22 years and the father was 25 years. Mother took regular antenatal checkups and took medicine on time, No history of any kind of infections, pregnancy induced hypertension, diabetes, or seizures was reported.

**Postnatal History-** Full term female baby (39<sup>th</sup> week), LSCS delivery, cried immediately after birth, birth weight- 3.2 kg.

**Family History:** All family member said to be normal.

**Immunization History:** BCG, OPV, HepB<sub>0</sub>

**Dietetic History:** Exclusive breast feeding started after 2 hour of birth.

### Personal History:

Appetite –Good

Meconium- Passed

Micturition –passed

Sleep –Normal

## General Examination

Lung- expanded

Activity- Alert

Color- pink

**Apgar score-** 1<sup>st</sup> min- 8/10

5<sup>th</sup> min. 10/10

10<sup>th</sup> min. 10/10

**Ballard score-** 40 (40<sup>th</sup> week of gestational age)

No any congenital anomalies.

No any abnormal secretion from umbilical cord

## Head to Toe examination:

**Head:** Normal, No any sign of hydrocephalus, etc.

**Eye:** Normal, No any sign of ophthalmia neonatorum, redness, secretion, Bitot's sign etc.

**Nose:** Normal, no any abnormal discharge, no redness.

**Ear:** Normal, ear recoil normal, no any secretion.

**Mouth:** Normal. Epstein pearl- absent, redness- absent, cleft palate and cleft lips- Absent

**Face:** Normal, No any facial dysmorphism.

**Skin:** No any cyanosis, petechiae rashes, birth mark.

**Neck:** Normal, No webbing neck, no any swelling.

**Chest:** Normal chest movement, no any mass formation.

**Abdomen:** normal umbilical cord, no any sign of hernia, liver, spleen normal.

**Extremities:** Normal, no any oligodactyly, polydactyly, club foot, calcaneo valgus and varus.

**Genital organ:** Descended testis, no any sign of hydrocele, normal scrotum

## Vital signs

HR –148/min RR –49/min Temp.97.6°F

## Anthropometry –

1.	Head circumference	33 cm.
2.	Chest circumference	31 cm
3.	Mid arm circumference (both)	9.5 cm
4.	Mid thigh circumference (both)	12 cm
5.	Height	49.5 cm
6.	Weight	3.2 kg

**Respiratory system:** Chest bi-symmetrical, normal chest movement, no added sound RR- 49/min

**Cardio-vascular system:** S1S2 Heard, No murmurs, HR-148/min

**Per-abdomen:** Soft, no any prominent veins, no any organomegaly

**Central nervous System:**

**Reflexes:**

Moro reflex- Intact

Sucking reflex- Intact

Rooting reflex-Intact

Step reflex- Intact

Grasp reflex-Intact

Tonic neck reflex- Intact

Planter reflex- Intact

**Investigation:**

Hemoglobin% - 17.8gm%

Blood group- O positive

CRP- Negative

Bilirubin level (Before treatment) -

Total – 11.8 mg/dl

Direct bilirubin- 1.2 mg/dl

Indirect bilirubin- 10.6 mg/dl

Bilirubin level (after treatment) -

Total – 5.8 mg/dl

Direct bilirubin- 0.6 mg/dl

Indirect bilirubin- 5.2 mg/dl

**Diagnosis:**

The case was diagnosed as Term female baby with physiological jaundice.

**Assessment criteria:**

Kramers rule- On the basis of yellow discoloration:

Grade 0- None

Grade 1- Face and neck only

Grade 2- Chest and back

Grade 3- Abdomen below umbilicus to knees

Grade 4- Arms and legs below knees

Grade 5- Hands and feet

Total bilirubin level:

Grade 0- below 6 mg/dl

Grade 1- 6-10 mg/dl

Grade 2- 10-15mg/dl

Grade 3- 15-20 mg/dl

**RESULT AND DISCUSSION**

**Effect of Ayurvedic medicine on Neonatal jaundice:**

s.n	Assessment Criteria	BT	AT
A.	Kramers Rule	4	0
B.	Total bilirubin	3	0

**TREATMENT PLAN/DISCUSSION**

S.n	Chikitsa	
1.	Parishek by bala kashaya	Sunlight therapy given after bala kwath pareshek
2.	Sunlight therapy	Morning at 7:30 am to 8:15 am (45 min.)
	Total duration of treatment- 2 days Discharge medicines- Liv 52 drop	

Ayurveda the ancient system of Indian medicine is a treasure of outputs and data obtained through invasive research program of many thousand years. Ayurveda always gives due importance to preventive aspects than the curative. In modern medicine, phototherapy is only one treatment for neonatal jaundice when bilirubin level upto 15mg/dl and blood transfusion indicated I when the bilirubin level more than 20 mg/dl. These both type of treatment may cause for neonatal dehydration, fever or infections. *Kaumarabhritya* is considered as one among the eight branches of Ayurveda by the Acharyas and has been given the utmost importance by *Acharya Kashyapa* among the *Ashta ayurveda*. The present study is a well-planned, clinical research for neonatal jaundice. The study was conducted on only one admitted patients in their early neonatal age. Acharyas have mentioned kamala as a symptom of *Pitta dushtastanyapana* (breast milk vitiated due to *Pitta dosha*) and have described the management of the same in mother and the baby. *Acharya Vagbhata* has mentioned abhyang by bala oil as a treatment of *vata dosha*. *Bala* have properties of *madhur rasa, snigdha guna, madhur vipaka,, shita virya*. These properties of bala are helpful for the treatment of any pittaj janya vikar. Oral medication for newborn can cause much other complication, in this study given only external type of treatment like *parishek* and sunlight therapy which is effective in

neonatal jaundice. *Bala kashya parishek* is effective because of his *rasa, guna, virya* and *vipaka*. Sunlight therapy helps in the, management of neonatal jaundice as photo-oxidation reaction which is help to decrease the bilirubin level. This medicine and sunlight therapy is very effective in the management of neonatal jaundice.

## CONCLUSION

The present study “A Critical clinical study of neonatal jaundice and its treatment modalities through ayurveda” draws to following conclusions- Rise in the serum bilirubin level is a physiological phenomenon in the early neonatal age. In this study, the yellowish discoloration of the sclera and skin was observed to become apparent in a cephalo-caudal progression starting on face and progressing to the abdomen and then feet, as serum bilirubin level increase, The signs and symptoms of Navajata Kamala described by *Kashyapacharya* in *Vedana Adhyaya, Sutrasthana* of *Kashyapa Samhita* resembles to neonatal hyperbilirubinemia. Factors such as short life of fetal RBC, immaturity of liver, paucity of flora in the gut, inadequacy of liver enzyme, increased entero-hepatic circulation and other contributing factor leads to the physiological hyperbilirubinemia in early

neonatal life. *Bala kashaya Parishek* followed by Sunlight therapy decreases the yellowish discoloration on sclera, face, chest and abdomen etc. No adverse reactions were observed in this study.

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