



ISSN 2456-3110

Vol 7 · Issue 7

August 2022

Journal of
**Ayurveda and Integrated
Medical Sciences**

www.jaims.in

JAIMS

An International Journal for Researches in Ayurveda and Allied Sciences



Maharshi Charaka
Ayurveda

Indexed

A case report on effect of *Dronapushpi Swarasa Nasya* in Kamala induced Hyperbilirubinemia

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ABSTRACT

Human body eliminates metabolic wastes either through sweat, urine, or through faeces. Any derangement in the normalcy leads to building up of metabolic wastes within the body. One such condition where there is accumulation of bilirubin in the blood is hyperbilirubinemia. Viral infection is the cause and presenting with yellowish discoloration of sclera, dark urine, pale stool, fatigue, flu like symptoms, loss of appetite etc. In Ayurveda, such symptoms are mentioned under the broad name Kamala. The line of management mainly highlights the advice of *Shodhana* in the form of *Virechana* and different *Shamana Aushadhis* based on the stages of the disease. In traditional folklore practice, the patients of these symptoms are treated with *Tikshna, Shodhana Nasya Karma*. With that practice in backdrop, a 17 years female patient presented with hyper-bilirubinaemia, was treated with *Dronapushpi Swarasa Nasya* ten drops to each nostrils, in a gap of 2 days. When the bilirubin level was raising gradually even after usual internal medication, this treatment was planned and administered. The bilirubin level from 5.7 was reduced to 1.4 after the treatment gradually over a period of 12 days. The patient showed gradual recovery from almost all the symptoms clinically and in haematological parameters. During the procedure nasya did not show any complications in the patients. *Dronapushpi Swarasa* can be effectively used to manage hyper-bilirubinaemia.

Key words: Kamala, Virechana, Dronapushpi Swarasa, Shodhana Nasya, Hyper-Bilirubinaemia

INTRODUCTION

Jaundice, also known as icterus is a yellowish or greenish pigmentation of the skin and yellowish of the eyes due to high bilirubin levels.^[1] It is commonly associated with itching. The face was having pallor and urine was also pale. Causes of jaundice vary from non-serious to potentially fatal. Levels of bilirubin in blood are normally below 1.0 mg/dl (17µmol/L) and levels

over 2-3 mg/dl (34- 51µmol/L) typically results in jaundice. High bilirubin is divided into two types: unconjugated (indirect) and conjugated (direct). Conjugated bilirubin can be confirmed by finding bilirubin in the urine. Other conditions that can cause yellowish skin but are not jaundice include carotenemia from eating large amounts of certain foods and medications like rifampicin.^[2] This case study shows that Ayurvedic herbs which give effective result in jaundice.

Kamala is one among the *Pittaja Vyadhi* and explained under *Rakta Pradoshaja Vikara*.^[3] The *Haridra Mutra, Netra* and *Twak* are the *Pratyatma Lakshana* of *Kamala*.^[3] *Dronapushpi Swarasa* was selected for the *Nasya Karma*. *Dronapushpi* is having *Katu Tikta Rasa, Kapha Vatahara, Ushna Virya* and *Katu Vipaka*.^[3] In this patient with *Kamala*, who is not responding to usual internal medications, was treated with *Nasya Karma* ten drops of *Dronapushpi Swarasa* was administered into each nostril, once in a gap of two days. The idea behind the treatment was to assess its effect on

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Submission Date: 19/06/2022 Accepted Date: 25/07/2022

Access this article online

Quick Response Code



Website: www.jaims.in

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hyperbilirubinemia. The result observed was promising towards the management of *Kamala* w.s.r. hyperbilirubinemia.

CASE REPORT

A 17 year old female patient was said to be apparently healthy before 10 days. Gradually she developed fever, which was on and off in nature associated with yellowishness in eyes, urine, and faeces. Along with this reduced appetite. The quantity of food intake was reducing day by day. Also, there was body ache, headache, and weakness which were worsening gradually. No H/o of loose stools, vomiting. Details of the examination are given below.

Examination (Ayurvedic)

- *Nadi* - 76/min
- *Mutra* - *Pitavarna*
- *Mala* - *Tilapishtanibha*
- *Jihva* - *Saama*
- *Shabda* - *Prakruta*
- *Sparsha* - *Ushna*
- *Druk* - *Netra-Pitta*
- *Prakruti* - *Vatakapha*
- *Sara, Samhanana, Satmya* - *Madhyama*
- *Aharashakti* – *Alpa*

General examination

- Pallor - Present
- Icterus - Present
- Lymph nodes - Absent
- Clubbing - Absent
- Oedema - Absent

Systemic examination

- **RS** - NVBS
- **CVS** - S1S2 heard, no murmur
- **CNS** - HMF intact

Abdominal examination

Inspection

Abdomen contour - Normal

Umbilicus inverted & centrally placed.

No scar, no visible veins are present.

Palpation

Soft, non-tender

Liver firm, smooth with distinct border

Palpable measuring about 2 fingers (2.5cm) from the lower costal margin

Spleen - non palpable

Percussion

Normal tympanic note heard

Shifting dullness absent

Auscultation

Normal bowel sounds heard

Hematological report suggesting of Hyperbilirubinemia
- On 18/05/2021

Haemogram

Hemoglobin - 8.0GM%

TC WBC - 5800cells/cu mm

Differential Count of WBC

Neutrophils - 61%

Lymphocytes - 34%

Eosinophils - 02%

Monocytes - 03%

Basophils - 00%

ESR - 30mm/Hr

Liver Function Test

Total Billirubin - **5.7mg/Dl**

Direct Billirubin - **2.9mg/Dl**

Indirect Billirubin - **2.8mg/Dl**

SGOT/AST - **261.0U/L**

SGPT/ALT - 367.0U/L

Alkaline Phosphatase - 179.0U/L

Total Protein - 7.9g/Dl

Albumin - 3.0g/Dl

Globulin - 4.9g/Dl

A/G Ratio - 0.6Ratio

Urine Test Report

Urine Albumin - Trace

Urine Sugar - Nil

Microscopic Examination

Epithelial Cells - 2-3/Hpf

Pus Cells - 2-3/Hpf

Rbc's - 0-1/Hpf

Casts - Nil

Crystals - Nil

Others - Nil

Urine For Bile Salt - Present

Urine For Bile Pigment - Present

Treatment

The details of internal medicine given are:

- *Aarogyavardhini Vati* 1 TID
- *Mrutyunjaya Rasa* 1 TID
- *Kumaryasava* 20ml TID
- *Madiphala Rasyana* 10ml BD B/F with hot water
- *Bhumiamalaki + Guduchi + Nimba + Bhringraja Kashaya* 50 ml BD
- *Nirocil* 1 TID

Intervention: Nasya procedure

Purva Karma

Medicine preparation

Fresh leaves of *Dronapushpi* were collected. After washing, it was grinded into a fine paste and filtered through a cloth and *Swarasa/* juice was collected.

Patient preparation

After the digestion of the food, at around 11 AM procedure was done.

Pradhana Karma

Patient was made to lie down in supine posture with neck hyper extended. With dropper, 10 drops of the *Swarasa* was administered into each nostril. The patient was asked to spit out the secretion into the tray.

Paschat Karma

After 30 minutes of observation, patient was sent to the room and advised rest.

Observation of patient

Burning sensation in eyes, nose and headache was present. Watering of eyes and nose lasted for 3-4 hours. Headache lasted for 1 hour after the procedure. After that, patient was comfortable.

RESULTS

In this patient, *Nasya* has shown significant improvements both clinically and haematologically after 2 courses of *Nasya*. The severity of symptoms like *Pitanetra*, *Nakha*, *Twak*, *Anana*, *Mutra* and *Varchas*, *Avipaka*, *Dourbalya*, etc. in the patient, following the treatment. After second *Nasya*, all the symptoms were reduced significantly. The itching, weakness reduced completely. Appetite is normal. Yellowishness reduced gradually. Liver Function Test showed significant changes which are mentioned in Table 1.

Table 1

Date	Bilirubin(T)	Direct	Indirect	SGOT	SGPT
18/05/2021	5.7	2.9	2.8	261	367
21/05/2021	5.1	2.7	2.4	---	---
22/05/2021	<i>Nasya</i>				
24/05/2021	<i>Nasya</i>				
25/05/2021	2.5	1.1	1.4	75	85
31/05/2021	1.4	0.4	1.0	43	34

DISCUSSION

Discussion on intervention

In this case report, patient had the symptoms of *Kamala*. The ideal treatment in this stage of the disease will be *Virechana Chikitsa*. But as the patient is *Durbala* and the appetite was also less, the patient is not fit for *Virechana*. Hence initially, the patient was prescribed with internal medications. When the condition was not responding and as the haematological reports started worsening, the alternate treatment was searched. In traditional folklore practice, the *Shodhana Nasya Karma* is widely practiced in the management of *Kamala*. Hence with that idea, *Rechana Nasya* was selected. *Dronapushpi Swarasa* was selected due to its *Ushna Teeksha Guna* and *Rechana* action can be achieved through the same. After one *Nasya Karma*, patient was observed for any complications for 6 hours. As patient was comfortable, it was decided to administer second dose after 1 day. After this dose too, patient was comfortable and drastic, significant changes were seen clinically and haematologically. Even though, *Samhitas* advised *Nasya Karma* in the prevention and management of *Jatru Urdhwa* conditions, in folklore practice, *Nasya* is commonly advised in the management of *Kamala*. It is difficult to explain the mode of action of *Nasya* in this condition. Any published data is not available to explain the systemic action of the drug administered through the nasal route. But as the drug possessed *Ushna Teekshna* properties, might have removed the *Sanga* (as it is the *Rudha Patha Kamala*), it eliminated the *Doshas* to some extent. But there is a definite benefit achieved in the patient where drug is administered through the nasal route and benefit is seen clinically. The possible explanation may be as:

Nervous stimulation - 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.^[5]

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.^[6]

CONCLUSION

Based on the common folklore practice of *Rechana Nasya* in the management of *Kamala*, a case diagnosed as *Kamala* was treated with *Dronapushpi Swarasa Nasya* (10 drops to each nostril) of 2 sitting with a gap of 1 day. This treatment showed promising result in the management of *Kamala*. The *Shodhana* effect of *Nasya* along with the hepatoprotective nature of *Dronapushpi* helped in attaining the normalcy of the patient.

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How to cite this article: Rohit Kumar, Rajalaxmi MG. A case report on effect of Dronapushpi Swarasa Nasya in Kamala induced Hyperbilirubinemia. J Ayurveda Integr Med Sci 2022;7:191-195.

Source of Support: Nil, **Conflict of Interest:** None declared.

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