



# A LITERATURE REVIEW ON PANDU IN CHILDREN

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## ABSTRACT

*Pandu Roga* was well known to Indian people science since *Vedic* Period. It is described in full length by all the *Acharyas* of Ayurveda as a specific disease with its own Pathogenesis and treatment. In *Panduroga* change the color of the body like pallor of skin, sclera, nail, tongue etc. due to *Rakta-alpata* means Hemoglobin level decrease than the normal level. It is related with both important *Dhatu Rasa* and *Rakta*. We can correlate this disease to Anaemia in modern science. Anaemia is the world's second leading cause of disability and is responsible for about 1 million deaths a year. It is therefore important for *Ayurvedic* scholar to search scientific reason behind the disease. With this research interest the present study has been undertaken thoroughly review of *Panduroga*. Three general principles of treatment have been mentioned in *Charaka Samhita*. They are *Daivavyapashraya*, *Yuktivyapashraya* and *Satvawajya*. Here only *Yuktivyapashraya Chikitsa* has been mentioned. Single drugs which have been used in *Pandu* are - *Lauha Bhasma*, *Mandura Bhasma*, *Pure Kaseesa*, *Shilajita*, *Vardhamana Pippali* etc. Compound drugs which are of vegetable origin

e.g. *Triphala*, *Phalatrikadi Kwatha*, *Punarnavashtaka Kwatha*, *Vidangavaleha* etc. Here also made some efforts to discuss every aspect of *Panduroga* in *Ayurvedic* point of view.

**KEYWORDS:** *Pandu*, Anaemia, *Rakta*, *Rasa*.

## INTRODUCTION

The pallor on the skin is a key diagnostic characteristic of *Pandu Roga* and is caused by a quantitative and qualitative shortage of *Rakta Dhatu*, which might manifest as a lack of haemoglobin less red blood cells (RBCs).<sup>1</sup> Considering *Panduta* as the predominant sign, the disease is termed as *Pandu roga*. The nearest correlation of iron deficiency anaemia can be made with *Pandu roga*, because of the predominance of *Panduta* or pallor in the whole body. Iron deficiency is a very common nutritional disorder worldwide and is known to affect approximately one third of the global population. While its incidence in affluent countries is low, the incidence of

IDA in India is very high. According to National Family Health Survey (NFHS) III data, the incidence of anaemia in urban children is 71%, rural is 84%, and overall is 79%. Nutritional iron deficiency is the most common cause of anaemia in India.<sup>2</sup> Iron Deficiency Anaemia, Thalassemia, Megaloblastic Anaemia, Haemolytic Anaemia, and other kinds of Anaemia are described in modern medicine. Iron deficiency is one of them. Anaemia is the most frequent nutritional deficiency ailment worldwide, although its incidence is higher in developing nations such as India, where ladies and children are disproportionately afflicted. Iron deficiency anaemia is caused by inadequate iron intake and poor iron absorption.<sup>3</sup> Iron deficiency is a relatively common problem in society, and the negative effects of oral allopathic iron preparations are extremely common. With the hope that herbal medication may be beneficial in treating iron deficient anaemia without causing any negative effects.<sup>4</sup> This conceptual study will highlight, evaluate, elaborate and discuss about *Pandu Roga* with special reference to Iron Deficiency Anaemia.

## MATERIAL & METHODS

Material related to *Pandu Roga* & Iron Deficiency Anaemia collected from text book of Ayurveda, commentaries and modern medicine respectively. The index, non-index medical journals has also referred to collect information of relevant topic.

### Conceptual Study Nidan of *Pandu Roga*

Table no 1. *Aaharaj hetu of Pandu Roga*

AAHARAJ NIDANA	CH.S.	SU.S.	A.H.
Amla, Lavana Rasa	+	+	+
Ati Ushana	+	-	-
Virudhasana	+	-	-
Atitikshana	+	+	+
Asatmaya Bhojana	+	-	-
Nishpav, Mash, Pinyaak Sevana	+	-	-
Vidagdha Anna Sevana	+	-	-

Table no 2. *Viharaj Hetu of Pandu Roga*

VIHARAJ NIDANA	CH.S.	SU.S.	A.H.
Divaswapna	+	+	+
Ativyayama	+	+	+
Vegdharana	+	-	+
Pratikarma	+	-	-
Ritu Veshymata	+	-	-
Mansika Nidana- Chinta, Bheya, Krodha	+	-	-

### Types of *Pandu Roga*

- Vataj Pandu
- Pittaj Pandu
- Kaphaj Pandu
- Sannipataj Pandu
- Mridbhakshanjanya Pandu

### Poorvaroop of Pandu Roga

Premonitory symptoms are warning signs of an upcoming illness. They warn us that a series of unfortunate occurrences will occur in the near future, culminating in full-fledged sickness. *Poorvaroop* is the first sign of sickness.(Table 3)

Table 3 *Pooravroopa*

<i>Poorvaroop</i>	<i>Cha.</i>	<i>Su.</i>	<i>A.H</i>	<i>Ha.</i>	<i>B.P.</i>
<i>Avipaka</i>	-	+	-	-	+
<i>Akshikutashotha</i>	-	+	-	-	-
<i>Aruchi</i>	-	-	+	-	-
<i>Alpavahnita</i>	-	-	+	-	-
<i>Angasada</i>	-	-	+	-	-
<i>Gatrasada</i>	-	+	+	-	+
<i>Hridspandanam</i>	+	-	+	-	-
<i>Mutrapitrata</i>	-	+	-	-	-
<i>Mridbhakshanaeccha</i>	-	+	-	-	-
<i>Panduta</i>	-	-	-	+	-
<i>Rukshta</i>	+	-	+	-	-
<i>Swedabhava</i>	+	-	+	-	-
<i>Shrama</i>	+	-	+	-	-
<i>Sthivanadhikya</i>	-	+	-	-	+
<i>Twakasputana</i>	-	+	-	+	+

### Samanya Lakshana of Pandu

*Karnakshweda, Hatanala, Daurbalya, Sadana, Annadwesa, Shrama, Bhrama, Gatrashool, Jwara, Swasha, Gaurava, Aruchi, Gatramarda, Shunakshikutashotha, Harita, Shirnalomata, Hatprabhatva, Kopana Shishiradweda, Nidralu, Sthivana, Alpawaka, Pindikodweshtanam Katiurupadaruka.*

Table no 4. *Roopa of Vataja Pandu*

<b>LAKSHANA</b>	<b>CH.S.</b>	<b>SU.S.</b>	<b>A.H.</b>	<b>MA.N.</b>
<i>Krishna Pandu twaka</i>	+	+	+	+
<i>Shiroruka</i>	+	-	+	-
<i>Angamarda</i>	+	-	-	-
<i>Kampa</i>	+	-	+	+
<i>Aasyaverasya</i>	+	-	+	-
<i>Balakshaya</i>	+	-	+	-
<i>Bhrama</i>	+	-	+	+

Table no 5. *Roopa of Pittaja Pandu*

<b>LAKSHANA</b>	<b>CH.S.</b>	<b>SU.S</b>	<b>A.H</b>	<b>MA.N.</b>
<i>Peeta Gatra</i>	+	+	+	+
<i>Jwara, Daha, Trushna</i>	+	+	+	+
<i>Sweda</i>	+	-	+	-
<i>Amloudgara</i>	+	-	+	-
<i>Bhinna Varcha</i>	+	-	+	-
<i>Murchha</i>	+	-	+	-
<i>Katuvakrata</i>	+	+	-	-

Table no 6. *Roopa of Kaphaja Pandu*

LAKSHANA	CH.S	SU.S	A.H	MA.N.
Shukla Netra	+	+	-	+
Chhardi	+	+	-	-
Romaharsha	+	-	+	-
Aalasya	+	-	+	+
Gaurava	+	-	-	+
Praseka	+	-	-	+
Saada	+	-	-	-

Table no 7. *Roopa of Mridbhakshanjanya Pandu*

LAKSHANA	CHARAK	VAGBHATA	MADHAV
Akshikoota shotha	+	-	-
Asya shotha	+	+	+
Arsha	-	-	+
Atisara	-	-	+
Bala kshaya	+	-	-
Krimi koshtha	+	-	-
Nabhi shotha	+	-	-
Purisha skapha	+	+	+
Purisha skrimi	-	+	-
Pada shotha	+	+	+

### Samprapati of Pandu Roga<sup>12</sup>

Due to *Nidana*, *Pitta dosha* gets vitiated and expelled by *Vayu*. It then reaches the *Hridya* and from there it mobilizes into entire body via *Dashadhamani* and get localized between *Twaka* and *Mamsa* causing *Dhatu shaithayata* and *Guruta*. Vitiated *kapha*, *Vata*, *Asruk*, *Twaka* and *Mamsa* cause *Twakavaivarnata* such as *Pandu*, *Haridra*, *Harita*, etc. There are systemic symptoms like Exertion dyspnoea, tiredness, breathlessness, leg cramps, etc. In ayurvedic classics, this diseased condition is known as *Pandu Roga*.

### Samprapti Ghatak<sup>13</sup>

- *Dosa -Pitta pradhana Tridosaja*
- *Dusya-Rasa, Rakta, Mamsa*
- *Agni-Jatharagni, Dhatvagni*
- *Agnidusti- Mandagni*
- *Srotas-Rasavaha, Raktavaha*
- *Srotodusti- Sanga*
- *Udbhavasthana- Amasayottha*
- *Adhisthan- Twak mamsantar*
- *Svabhava- Cirakari*

### Treatment of Panduroga

In Ayurveda, three general principles of treatment have been mentioned in *Charaka Samhita*.<sup>[16]</sup> They are *Daivavyapashraya*, *Yuktivyapashraya* and *Satvawajya*. Here only *Yuktivyapashraya Chikitsa* has been mentioned which is as follows.

1. *Nidana Parivarjana* (Avoidance of aetiological factors)
2. *Snehana* (Oleation therapy) and *Swedana*

(Fomentation therapy)

3. *Shodhana* (Eliminating the factors responsible for producing the disease).

4. *Shamana* (Palliative treatment) to correct the deficiency or abnormality and also treat the allied symptoms.

In *Pandu Roga* both *Shodhana* and *Shamana Chikitsa* can be performed. Keeping the above view in mind various method have been prescribed, some of which act as *Snehana*, some as *Shodhana* and some act specifically on *Panduroga* along with *Snehana* and *Shodhana Gunas* importance

## I. Treatment according to predominance of *Doshas*

In cases of *Vatika Pandu* the substances having *Snigdha Guna*, in *Paittika* the substances having *Madhur* and *Tikta Rasa* and in *Kaphaja Pandu* drugs having *Ushna Virya* and in *Tridosha Pandu*, a mixture of all the above should be prescribed. In *Mridbhakshanajanya Pandu*, the *Mritika* which may be composed of various indigestible and inaccessible substances obstructs various channels. Thus, it is necessary to remove it by *Tikshna Virechana*.

**II. Specific treatment:** *Vishishta Aushadhi* (Specific Drugs) - As already described that *Pandu* is predominantly due to lack of blood. The fact that *Lauha* is closely related with formation of blood was well realized and that is why *Rakta* has also been known by the word *Lohita*, and *Pandu* by the word *Vilohita*. Use of *Lauha* preparation in the treatment of *Pandu* is mentioned by almost all the *Ayurveda Samhita*. In this connection, a verse from *Acharya Vagbhata* <sup>[19]</sup> is important - *Pandvamaye Shreshtha*.

**Various forms of drugs which have been used in the treatment of *Pandu* in Ayurvedic texts:** In the treatment of *Pandu*, single drug or a combination of two or more drugs have been used. A description is given as:

1. Single drugs which have been used in *Pandu* are - *Lauha Bhasma*, *Mandura Bhasma*, *Pure Kaseesa*, *Shilajita*, *Vardhamana Pippali* etc.
2. Compound drugs which are of vegetable origin e.g. *Triphala*, *Phalatrikadi Kwatha*, *Punarnavashtaka Kwatha*, *Vidangavaleha* etc.
3. Drug which are a combination of vegetable origin and animal origin e.g. *Mahatiktaka Ghrita*, *Pathya Ghrita*, *Rajani Ghrita*, *Gomutraharitaki* etc.
4. Drugs which are a combination of vegetable and mineral origin e.g. *Yogaraja*, *Shilajatvadi Vati*, *Navayasa Lauha*, *Mandura Vataka*, *Punnavadi Mundura*.
5. *Asava* and *Arishta* e.g. *Lauhasava*, *Punarnavasava* etc. In brief the *Panduhara Yogas* are described in various forms such as *Churna*, *Vati*, *Asava*, *Arishta*, *Avaleha*, *Ghrita*.

## III. Pathya- Apathya

This includes diet and environmental factors which should be regulated according to the need of the body.

### (A) Pathya - (Measures which are beneficial to the patients of *Pandu*)

*Acharya Sushruta* has mentioned the use of drink containing juice of *Amalaki*, *Ikshurasa*, salt and honey <sup>[20]</sup>. Similarly, vegetables and fruits which are beneficial in *Pandu* have also been mentioned in *Bhaishajya Ratnavali*. They are *Patola*, *Guduchi*, Leaves of *Chaulai* and *Punarnava*. *Pakva Amalaka*, *Kharjura*, *Rasona*, *Palandu* etc. are beneficial in *Panduroga*.

### (B) Apathya - (Measures that aggravate the disease)

All those measures should be avoided which aggravate the disease. The various measures which are responsible for the development of *Panduroga* have been described previously.

## CONCLUSION

From above article it is clear that *Pandu Roga* is characterized predominantly presence of paleness all over the body. Majority of *Nidanas* are *Pitta* and *Rakta Prakopaka*. These *Nidanas* causes *Mandagni* and *Rasavahasrotodushti* which further causes less production of *Posaka* from the *Rasadhatu* and depletion of *Rakta* and ultimately *Raktalpatha*. In second type of pathogenesis *Prakupita Pitta* of *Hridaya* expelled through *Dasa Dhamani* by powerful *Vata* which further vitiate *Vata*, *Rakta*, *Kapha*, *Twak* and *Mamsa* and results as *Pandu Varnata* and ultimately *Pandu Roga*. Mainly *Rasavaha* and *Raktavaha Srotas* are mainly manifestation of *Pandu Roga*. Five types of *Pandu Roga* may be clearly differentiated based on the predominance of *Dosas*. These are *Vataja Pandu*, *Pittaja Pandu*, *Kaphaja Pandu*, *Sannipataja Pandu* and *Mrittikabhakshana- janya Pandu*. In acute stage all *Pandu Roga* are curable or manageable but in chronic stage they are incurable. So *Upashaya* and *Anupashaya* should be followed in early stage. The study of *Nidanapanchak* will helpful in accurate understanding of *Nidana*, *Purvarupa*, *Rupa*, aggravating factors, relieving factors, major outcome and prognosis

of *Pandu Roga*. This ancient knowledge of Ayurveda will help in specific, rational, scientific, result oriented treatment and management planning in patients.

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