

A CRITICAL REVIEW ON PANDU AND ITS MANAGEMENT

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Article Received on 02/04/2025

Article Revised on 23/04/2025

Article Published on 13/05/2025

ABSTRACT

The struggle between man and disease is immortal from the *vedic* time about 5000 BC. *Pandu* is one of the disease whose references found from the *vedic* period as in *Rigveda* and *Atharvaveda* it is known by *Vilohit*, *Haribha* and *Halima*. *Pandu vyadhi* is described in classical texts of *Ayurveda* as symptom, complication of disease or as sign of certain disease. A prominent diagnostic feature of *Pandu roga* is the pallor on the skin. Considering *Panduta* (pallor) as the predominant sign, the disease is termed as *Pandu roga*. The clinical condition of *Pandu roga* in *Ayurveda* shows resemblance with the anaemia in modern science. Anaemia is a major global public health problem because of its high prevalence and affecting millions of people. It mainly occurs due to nutritional deficiency. Malnutrition and improper diet cause decrease in *Rakta dhatu*, *Shonita kshaya* produces roughness of skin, craving or desire for sour and cold things, looseness of veins. This article discusses Anaemia (*Pandu*) from *ayurvedic* point of view.

INTRODUCTION

Ayurveda is the oldest system of healing and provides service to mankind in which body physiology is too much emphasized to understand the aetiology and pathogenesis of disease, so that best treatment can be searched out for the benefit of humanity. According to *Ayurvedic* literature, the skin color in *Pandu roga* as '*ketaki dhuli sannibhama*' and '*bheka varna*'. Acharya Charak considered *Pandu* as *pitta* predominant disease and *Rasa pradoshaja vikara* and Acharya Sushruta considered as *Rakta pradoshaja vikara*. *Pandu roga* mainly occurs due to the quantitative and qualitative deficiency of *Rakta dhatu* caused either in the form of deficiency of haemoglobin or red blood cells. As per *Ayurveda*, "*Rakta dhatu* is the second *dhatu* and is derived from the "*Prasada Bhaga*" of *Rasa dhatu*. It is formed when the "*Rasa dhatu*" reaches the *Yakrit* and *Pleeha*, where it is acted upon by "*Ranjaka pitta*" which gives its red color, essentially transforming the *Rasa dhatu* into *Rakta dhatu* through a process called "*Ranjana karma*"; this process is facilitated by digestive fire present in these organs. Even in the embryonic life, *Rakta dhatu* plays important role in the formation of *Yakrit* (liver), *Pleeha* (Spleen), *phupphusa* (Lungs), *Unduka* (colon), *vrikka* (kidney), *vrishna* (Testis) and *hridaya* (heart). In other classical texts of *Ayurveda*, few additional information regarding *Pandu roga* is found which is distinct from the view of Acharya charak.

AIMS AND OBJECTIVES

To review concept of *Pandu roga* from different *Ayurvedic* literature.

MATERIAL AND METHODS

1. Classical text books of *Ayurveda*.
2. Text book of modern science.
3. Previously published research article.

HISTORICAL REVIEW

पित्तेन िण्डुना वापि धुम धमरुिनेन वा। पवपिर्यता महाभेण महता चानुि गुणा ॥

(अथर्ववेद िरिषिष्ट 58.ख.25)

लोहचुणय तकीतं िण्डु िोगहि भवेत् । (इपत गरुडे)

According to *Rigveda* and *Atharvaveda*, *Panduroga* is known as *Vilohit*, *Haribha*, *Halima*. In *Garuda Purana* it has been described that *Takra* mixed with *loha churna* is useful in *Pandu roga*.

Acharya charak has described *Pandu roga* in *sutra sathana* in *Ashtodariya Adhayaya* as well as in *Chikitsa sthana* 16th chapter "*Pandu Roga Chikitsa*".

Acharya Sushruta mentioned *Pandu Roga* in *Uttartantra* "*Pandu Adhyaya*" 44th chapter.

Ashtanga Sangraha mentioned "*Pandu Roga*" in *Nidana sthana* in 13th *adhyaya* and in *Chikitsa sthana* in 18th

chapter.

Acharya Vagbhatta has described *Pandu* in *Nidanasthana* 13th chapter and in *chikitsa sathan* chapter 16th.

Madhav Nidana has described *Pandu Roga* in 8th Adhyaya ‘*Pandu Roga*’

Sharangdhara Samhita has described ‘*Pandu roga*’ in *Pradhana Khanda* 7th Adhyaya.

Bhavprakash has given the description of ‘*Pandu roga*’ in *Madhyam Khanda* 8th Adhyaya.

Harita Samhita has described ‘*Pandu roga*’ in 3rd sthana 8th Adhyaya.

Chakradatta has also described chapter 8th on ‘Treatment of *Pandu roga*’.

In Rasendra sara sangraha in 2nd chapter ‘Treatment of *Pandu* and *Kamala Roga*’ has been mentioned.

REVIEW OF LITERATURE

Vyutpati of Pandu

According to *Shabdakalpdruma*- Part 3, the word *Pandu* is derived from root ‘*Padi Nasane*’ with suffix ‘*Ku*’ and elaboration through ‘*Ni*’. The meaning is always taken in sense of ‘*Nashana*’ i.e. loss.

Nirukti of Pandu

According to *Vachaspathyam* (part 5) ‘*Pandustu peetbhagardhm ketaki dhulisannibham*’ means *Pandu* is like colour of pollen grains of *ketaki* flower which is whitish yellow.

Definition of Pandu

Sarveshu chaitehvih Pandubhavo Yatoadhikoatah khalu Pandurogah (Su. Ut.44/4) It is called *Pandu roga* because of predominance of paleness all over body.

Poorvarupa

Charaka	Sushruta and Bhavprakash	Vagbhatta	Harita
Hridhyaspanan (palpitation of heart)	Twakasphotana (cracking of skin)	Hridhyaspanan (palpitation of heart)	Akshi- Kutashotha (orbit swelling)
Rukshyam (Roughness)	Shithivana (spitting) Gatrasada (malaise) Mridbhakshan prekshan (liking for earth eating)	Rukshta (Roughness) Aruchi (poor digestion)	Sharira pandu varna (paleness)
Swedaabhava (absence of sweat)	Kutashotha (orbit swelling) Veenmutrapeatatav (yellowish faeces and urine)	Peetamutra (yellow urine) Swedaabhava (absence of sweat)	Peetamutra (yellow urine) Nishithivana (spitting)
Shramasthata (Exhaustion)	Avipaka (indigestion)	Alpavihinta (weakness on exertion)	Rukshta (Roughness)

Samprapti Samanya samprapti

Person in whom *pitta pradhan tridosha* vitiates *Rasa* and *rakta dhatu* affecting laxity of *dhatu*s and heaviness in

Synonyms of Pandu

In *Sushruta Samhita*, it is called variously as *kamala*, *panaki*, *panduroga*, *kumbha*, *lagharaka* and *alasa*.

In *Rigveda* and *Atharvaveda*, it has been described by name of *Vilohita*, *Halima* and *Haribha*.

Nidana of Pandu

क्षिण्णमलवणात्पुष्णपवरुद्धासात्मभोजनात् । पनप्रवमावपिष्णकपतलतैतपनषेवणात् ॥७॥
पवदग्धेऽन्ने पदवास्वप्नाद्दर्मात्मन्येयुनात्तथा ।

प्रपतकमयतुयवैषम्यद्देवानां च पवधं णिणात् ॥८॥

कामपचन्ताभर्क्राधौकोहितचेतसः । (ch.chi.16/7-9)

Aaharaja Nidana

- Consumption of alkaline, sour, salty, too hot, incompatible and unsuitable food.
- Excessive use of *nispava*, *Masha*, *pinyaka*, *tila taila* and *vidagdha anna*.

Viharaja Nidana

Day-time sleep (*divaswapna*), exercise (*vyayama*) and sexual intercourse (*Maithuna*) during burning (indigestion) of food, faulty management of evacuative (*Panchkarma*) measures and seasons regimen; suppression of natural urges. (*vega dharana*).

Mansika nidana

Persons suffering from anxiety, fear, anger and grief have a major role in *Pandu roga*.

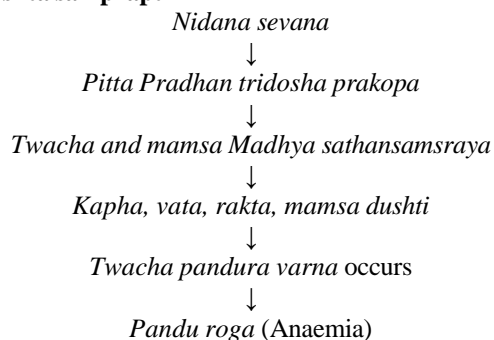
Nidanarthaka roga

There are various disease mentioned in *ayurvedic* literature which occurs as *poorvarupa*, symptom or as *updrava*, these are called as *nidanarthakar rogas* of *pandu*. E.g. *Rakta arsha*, *Rakta pitta*, *shotha*, *grahani*, *rakta arbuda*, *kamala*, *ashmari* etc.

body. *Bala*, *varna*, *Sneha* and other properties also get too much diminished due to morbidity of *dosha* and *dushya*. As a result, deficiency of blood, fat, *ojas*,

looseness of body parts and abnormality of complexion occurs.

Vishishta samprapti



Samprapti Ghataka

Dosha: Pitta Pradhan tridosha prakopa
Dushya : Rasa, Rakta, twacha and mamsa
Srotas : Rasavaha, Raktavaha
Sroto dushti prakara: Sanga
Adhithana: Sarv Sharigata twacha
Ashaya : Amasaya
Agni : Dhatu agni mandhya
Vyadhi saubhava : Chirkari
Sadhya- Asadhyta : Sadhya/ Kricha sadhya

Types of Pandu

Acharya	No. of pandu	Types of Pandu
Charaka	5	Vataja Pittaja Kaphaja Sannipataja, Mritbhakshan janya
Sushruta	4	Vataja Pittaja Kaphaja, Sannipataja
Vagbhatta	5	Vataja Pittaja Kaphaja Sannipataja Mrittika bhakshan janya
Bhavprakash	5	Vataja Pittaja Kaphaja Sannipataja, Mrtbhaksanaja pandu
Harita	5	Vataja Pittaja Kaphaja Tridoshaja Mrittika bhakshan

Acharya Harita, considered 8 types of *pandu roga*, he included *kamala*, *halimaka* and *panaki*.

Samanya Lakshanas

According to Charaka

Twacha pandu varna (pallor of skin); *Alpa rakta* (scanty blood); *Alpa medasvita* (fat/marrow deficiency); *Nisarta* (loss of glow); *Shaithila indriya* (sensory blurring);

Karnasweda (tinnitus); *Daurbalta* (weakness); *Agnimandya* (indigestion); *Aruchi* (anorexia); *Thakavat* (fatigue); *Brahma* (vertigo); *Jwara* (fever); *Shwasa* (exertional dyspnoea); *Akshikuta shotha* (swelling around eyes); *Shermaloma* (fall of hair); *Shishirdewashi* (aversion to cold); *Atinidra* (excessive sleep); *Shithivan* (excessive salivation); *Alpa vaak* (feeble speech); *Pindiko udhveshtana* (cramps in calf region)

Type of pandu	Charaka	Sushruta	Vagbhatta	Bhavprakash	Harita
Vataja pandu	Blackish/paleness, roughness and reddishness in body, bodyache, piercing pain, trembling pain, pain in sides and head, dryness of stool, distaste in mouth, oedema, hardness in bowels and debility.	Blackish eyes, prominent blackish veins and faeces, urine, nails and face of black colour.	Bodyache, piercing pain and tremor, blackish-red and lusterless discoloration of veins, nails, faeces, urine and eyes, swelling, flatulence, bad taste in mouth, dryness of faeces and pain in flanks and hand.	Dryness of skin, black or red colour of skin, urine, eyes etc. tremors, pricking pain, flatulence, giddiness	Pain, dryness, heaviness in head, yellow discoloration of skin, urine, eyes, nails.
Pittaja pandu	Yellow/ greenish tinge, fever, burning sensation, vomiting, fainting, thirst and yellow urine and stool, desires for cold and aversion of food, pungent mouth, foul odour, loose motions, debility and feeling of darkness.	Yellowish eyes, yellowish veins, faeces, urine, nails and face of yellow colour.	Green or yellowish colour veins, fever, unconsciousness, thirst, perspiration, fainting, desire for cold things, bad smell of body and mouth, bitter taste, loose bowels, acidity and feeling of burning sensation.	Yellow discoloration of skin, urine, faeces, nails and eyes, feeling of burning sensation, thirst, fever, loose bowels	Yellow discoloration, swelling, pungent mouthtaste, thirst, mild fever.
Kaphaja	Heaviness, drowsiness,	Whitish eyes,	White colour of veins,	Excess	Cough, lethargy

<i>pandu</i>	vomiting, whitish complexion, excessive salivation, horripilation, malaise, fainting, giddiness, exhaustion, dyspnoea, cough, lassitude, anorexia, obstruction in speech and voice, white urine, eyes and stool, desire for pungent, rough and hot things, oedema and sweetness in mouth	white veins; faeces, urine, nails and face of white colour.	stupor, salty taste in the mouth, horripilation, loss of voice, cough and vomiting.	salivation, oedema, stupor, lassitude, feeling of heaviness of body, white colouration of skin, eyes, urine, face etc	swelling, sweating, heaviness
<i>Sannipataja pandu</i>	Exhibiting symptoms of all 3 doshas	Exhibiting symptoms of all 3 doshas	Presence of symptoms of all 3 doshas will be seen.	Presence of symptoms of all 3 doshas will be seen.	Lethargy, swelling, vomiting, cough, loose stools, fever, thirst, loss of appetite, tiredness
<i>Mritbhakshan</i>	Strength, complexion	–	Swelling of umbilicus, feet,	Yellowish-white colour,	Strength, complexion
<i>janya pandu</i>	Loss of strength and power of digestion, patient suffers from swelling on cheeks, orbit and eyebrows, feet, navel and private parts, intestinal parasites and diarrhoea passing stool with blood and mucus		face and genitals and removing faeces containing worms mixed with blood and mucus.	stupor, lassitude, cough, dyspnoea, abdominal pain, loss of taste/appetite, oedema around eyes, cheeks, eyebrows, legs, umbilicus and genitals, diarrhoea expelling worms, faeces mixed with blood and kapha (mucus).	Strength and digestion decreases.

Sadhya- Asadhyata According to Charak

- Patient who has *Pandu roga* from long duration or who has excessive roughness is not curable.
- Patient developing oedema and having vision of objects as yellow is not treatable.
- The disease is also incurable if the patient passes scabulous, scanty stool with mucus and green colour, who has anxious expression, white and excessively smeared limbs, suffers from vomiting, fainting and thirst and if he becomes white due to blood deficiency.

According to Sushruta

- Patient who has swelling in end parts and thinned in the middle and vice versa.
- Patient who has swelling in anus, penis and scrotum, gets fainted and almost unconscious and suffers from diarrhoea and fever.

According to Bhavaprakasha

- Patient of *panduroga* (anaemia) is to be refused treatment who is having fever, loss of taste, nausea, vomiting, thirst, exhaustion, emaciation loss of sensory function and the disease is produced by all

the three doshas. *Panduroga* which has become *khara* (made all *dhatu*s/tissues very dry) lose oiliness by remaining for a long time, given rise to swelling the body parts, of him, who sees all things as yellow only should be refused.

- Patient of *panduroga* who has diarrhoea and eliminates faeces which is hard, small in quantity and mixed with *Kapha* (mucus), who is timid, body full of sweat, suffers from more of vomiting, fainting, and thirst, whose teeth (gums), nails and eyes have become very pale who sees all things as yellowish white masses, is going to die.
- Patient who has swelling in the extremities and emaciation in the middle (trunk) or has swelling in the rectum, face, penis, scrotum; who has frequent fainting and unconsciousness who suffers from severe *diarrhoea and fever*.

UPDRAVA

According to Sushruta

Complications of *Pandu roga* such as *Shwasa* (dyspnoea), *Atisara* (diarrhoea), *Aruchi* (Anorexia), *Kasa* (Cough), *Murrrcha* (Fainting), *Trishna* (Thirst), *Chardi* (vomiting), *shoola* (Abdominal pain), *jawara* (fever),

shopha (oedema), *daha* (burning sensation), *bhojana apachana* (Indigestion), *swarabheda* (hoarseness of voice) and *sada* (Malaise).

Chikitsa

तत्र पाण्डुवामयौ स्निग्धनतीक्ष्णैरुवांति तौस्मकैः ।

संशोध्यो मृदुस्निग्धतक्ैः कामलो तु स्वरेविः ॥ (ch.chi.16/40)

According to Acharya Charaka, patient of *sadhya pandu roga* after unction should be subjected to strong emesis and purgation.

For unction, *Panchgavya Ghrita*, *Mahatikta* or *kalyanaka ghrita* should be given.

For purgation, give milk mixed with cows urine or singly in profuse quantity.

In warm decoction of *danti* fruits hot infusion of *kasmarya* or grape fruits should be given.

In *paittik pandu*, *trivrit* powder mixed with sugar in double quantity should be given and in *kaphaj pandu*

haritaki fruit dipped in cows urine should be given.

वापतके स्नेहभूषणं, िपत्तके पतकितीतलम् ॥

श्लैष्मिके कटुपतक्तोष्णं, पवपमश्र सापन्निपतके । (ch.chi 16/116)

Hetu viparita chikitsa karma in Pandu as follows

Vataja pandu - sneha pradhan aushadha

Pittaja pandu- tikta rasa and sheeta veerya aushada

Kaphaja pandu- katu, tikta rasa and ushna veerya

aushada Tridoshaj pandu- mixed dravya

Mrittikabhakshanjanya pandu:- The physician should first eliminate the ingested *mrittika* out of the body by administering strong evacuative

according to strength of patient or if the patient doesn't desist from eating *mrittika* then *mrittika* should be given to patient after impregnated with drugs like *vidanga*, *nimba* leaves, *ativisha* etc. which destroy its harmful effects.

Some yogas used in Pandu roga mentioned in different samhitas

Charaka	Sushruta	Vagbhata	chakradat ta	Bhavprak asha	Harita	Rasendra sara sangraha
Vishaladi phanta	Ayorajovyosh adhya avheha	Draksha leha Hrisvapanch mula kwatha	Phalatrika di kwatha Ayastiladi modaka	Punarnav adi Mandura Navayasa churna Phalatrikadi kwatha Mandura vataka	Loha churna vati Shunthiyadi mishrit loha churna	Panchan anan vati Kameshw ara rasa
Swarnasheer yadi yoga	Brihatyadi Ghritam	Dadimadi ghrita Mandura vataka	Ayomala (Mandura) prayoga Navayasa lauha		Manduk vati Vajramandu k vataka	Sudana rasa Mandurv ajra vataka
Gomutra haritaki Loha bhasma	Yashti kwatha churna prayoga					
Navayasa churna			Yogaraja			
Mandura bhasma Mandura vataka	Triphaladi churna		Visaladi churna			
Swarnamaks hikadi yoga	Ajashakradi churnam Manduradi Prayoga	Vyoshadi churna	Lohapatra srita ksheera Darvyadi loha			
Yogaraja			Mandura prayoga			
Shilajatu vataka Punarnava mandura	Vibhitakadi kwatha	Svarnaksiria dika panadi Phalatrikadi kwatha	Vidangadi lauha	Astadasa nga loha	Amrita vataka	Laghvana nda rasa
Darvayadi leha	Sauvarchalad i yoga		Triushana di mandura			
Dhatryiaavleha Mandur vataka	Balashigru yoga	Tapyadi Ghutika	Punarnav adi mandura Mandura vajra vataka			
Godo Arishta	Nyagrodhadi varga kwatha					
Bejakaarisht a	Vidanga avleha		Dhatryaris hta Draksha Ghrita Murvadya Ghrita Vyosadya ghrita			
Dhatreyadi arishta						

Pathya- Apathya Pathya

Shali- shashtik rice, *Yava* (Barley), *Godhuma* (Wheat), soup of meat of animals of desert like lands (*jangala mamsa rasa*), *Mudga* (green gram), *Adhaki* (Tur dhal), *Masura* (Lentil).

According to Acharya Susruta

- *Pandu Rogi* must use *Arishta* prepared from *Guda*, *Sharkara* (sugar) and *Shahad* (honey) like *Abhayaarishta* and *Madhavasava*
- *Asava* prepared from *Mutra* and *Kshara* should be used
- *Jangala Mamsa Rasa* added with *Sneha* (fat) and *Amalaka Swaras* should be used

In **Harita Samhita**, *Arjuna* (patra), *Vastuka*, *Shatpusha shaka sevan* also mentioned.

Apathya**Bhaishajya Ratanavali****Apathya Aahara are mentioned**

- *Rakta Sruti*, *Dhoompan*, *Vaman Vega Dharan*, *Swedan* and *Maithoon* are to be avoided by *Pandu Rogi*.
- Avoid consumption of *Shimbi*, *Patrashaak*, *Ramath*, *Masha*, *Ambupaan*, *Pindyaak*, *Tambul*, *Sarshapa*, and *Sura*.
- Intake of water of rivers like those originating from *Vindhya* and *Sahyadri*
- Mountain.
- All types of salt, sour edibles, *Virudhha Anna* (incompatible foods), food that is *Guru* (heavy to digest) and *Vidahi* (cause a burning sensation).

According to Harita samhita

Tila, *Ruksha*, *Katu*, *Dahatamaka*, *Kanji*, *Sura*, *Amla*, *Souvrika*, *Beejapuraka taila*

DISCUSSION AND CONCLUSION

Causative factors of *Pandu* are widely described in *samhitas*. According to *ayurveda*, *nidan* of *pandu* are *Diwasvapa*, *Viruddha Bhajana* and *Krodha* leads to vitiation of *Pitta dosha*. *Ativyavaya* and *ati adhvagamana* leads to *vata prakopa*. Vitiation of *dosha* can lead to improper *Rasa dhatu* formation and so on and thus leads to *Pandu roga*. *Mridabhakshana* is also the aetiology of the disease. *Nidanaarthakar rogas of pandu* can directly or indirectly leads to *Rakta kshaya* and produces *pandu*. The features described as *poorvarupa* of *Pandu* are *Hridspandana* (palpitation), *shrama* (fatigue), *Angasada* and *Gatrasada* (weakness). The pathology of *Pandu roga* is mainly concerned with vitiation of *pitta* which in turn vitiates *Rakta* as *mala* of *Rakta dhatu* is *pitta* leading to condition of *Pandubhava*. Thus, *pitta dosha* takes leading part in production of *Dhatushaithilya* and *Dhatugaurava* and in turn causes *balakshaya*, *varnakshaya* and *Ojakshaya*. Symptoms of *Pandu* will be *aruchi*, *jwara*, *panduta*, *gaurava*, *tandara* etc. The clinical presentation of *Pandu* can be correlated with

anaemia. If left untreated it can further leads to complications like heart failure, angina, arrhythmias, cognitive impairment and renal failure. *Nidanaparivarjana* is the best treatment for any disease and to correct obstruction in *srotas shodana* is indicated. For *agni dearrangement*, various *ghrita preparations* are indicated in *samhitas* and it also helps in *dhatu poshana*. As *rakta kshaya* is occurring various *loha* preparations are also given in *classical* texts for management of *pandu* which will correct metabolism and stimulates *dhatuposhana*.

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