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## A Review Article on *Pandu* with special reference to Anaemia

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**Abstract:** *Pandu Roga* is one of the diseases mentioned in *Ayurveda*, which is one of the “*Varnopalakshita Roga*” i.e., a disease characterized by the change in the colour to white (*Shweta*), yellowish (*Peeta*), greenish (*Harita*). The clinical condition of *Pandu* in *Ayurveda* can be co-related with *Anaemia* described in Modern Medical Science, due to the resemblance in the clinical signs and symptoms. In Modern Medicine, *Pandu* is a pale appearance which may be due to the decreased blood supply to the skin or decreased visibility of oxyhemoglobin. *Anaemia* is a major global public health problem and the most prevalent nutritional deficiency disorder in the world. This article presents the *Ayurvedic* concept of *Pandu Roga* (*Anaemia*).

**KEY WORDS:** : *Pandu*, *Vyadhi*, *Srotas*, *Anaemia*, *Pallor*

### INTRODUCTION

*Ayurveda* is the science of life that is focused on the maintenance of positive health in healthy and eradication of ailments in diseased through its holistic approach, lifestyle practices, dietary habits, and safer medications. Malnutrition either due to inadequate dietary intake or lack of balanced diet and population explosion in today's world has led to the development of various diseases and *Pandu Roga* is one of such diseases. *Ayurveda* described *Pandu* as *Pitta Pradhana Vyadhi* associated with *Rasa* and *Rakta Dhatu*. *Dhatu* nourishment mainly affects disease due to *Pitta Prakopaka Ahara*<sup>[1]</sup> *Pandu Roga* is one of the *Varnopalakshita Roga* mentioned in *Ayurveda* characterized by the changes in the skin colour to white (*Shweta*), yellowish (*Peeta*), greenish (*Harita*) etc.<sup>[2]</sup> *Acharya Charak* and *Vagbhatta* accepted *Pandu Roga* as a disease of *Rasavaha Srotas*, while according to *Sushruta* it is of *Raktavaha Srotas*<sup>[3]</sup>

*Pandu Roga* is characterized by the paleness of the body which may be due to reduced blood flow and oxygen or by a decreased number of red blood cells and anaemia is one of the most common causes of paleness, so *Pandu Roga* can be correlated with *Anaemia*<sup>[4]</sup> *Anaemia* refers to a state in which the level of haemoglobin in the blood is below the reference range appropriate for age and sex.<sup>[5]</sup> *Anaemia* is a major global public health problem having an influence on health as well as social and economic development affecting both developing and developed countries.<sup>[6]</sup> *Anaemia* is the most prevalent nutritional deficiency disorder in the world.<sup>[7]</sup> Globally, *Anaemia* affects 1.62 billion people, which corresponds to 24.8% of the population.<sup>[8]</sup> In India, *Anaemia* affects an estimated 50% of the population.<sup>[9]</sup> In *Ayurveda* concept of *Pandu* is abundantly and mentioned in various literature. The knowledge of this concept is very beneficial to treat different disorders where *Pandu* is a symptom and disease itself.

This article presents the *Ayurvedic* concept of *Pandu Roga* (*Anaemia*). Hence, in this article attempt has been made to review various available *Samhita*, *Samgrahagrantha* to find out the different descriptions about *Pandu* and bring all of them in a single place.

❖ **AIM AND OBJECTIVES:** To review the concept of *Pandu Roga* from different *Ayurvedic* literature.

❖ **MATERIAL AND METHOD:**

Material has been collected from ancient *Ayurvedic* texts, Research Journals, and electronic databases.

❖ **REVIEW OF LITERATURE:**

**VYUTPATTI:** The word *Pandu* is derived from '*Padi Nashane*' *Dhatu* by adding '*Ku Pratyaya*' to it, the meaning of which is always taken in the sense of *Nashana* and as *Pandu* has been kept under the group which is classified and named according to the change in colour.<sup>[10]</sup>

**NIRUKTI OF PANDU:**

1. According to *Shabdarnava Kosh* '*Pandustu Peetbhagardh Ketaki Dhulisannibham*' means *Pandu* is like the colour of pollen grains of *Ketaki* flower which is whitish yellow.<sup>[11]</sup>

2. '*Pandutwenuplakshito Rogah Pandu Rogah*' means the disease which resembles *Pandu Varna* is known as *Pandu*.<sup>[12]</sup>

**DEFINITION OF PANDU:**<sup>[13]</sup>

*Sarveshu Chaiteshvih Pandubhavo Yatoadhikoatah Khalu Pandurogah.* (Su.Ut. 44/4)  
It is called *Pandu Roga* because of the predominance of paleness all over the body.

**SYNONYMS :**

According to *Shushrut Kamala*, *Panki*, *Laghrak*, *Alas* and *Kumbhahwa* are the synonyms of *Pandu*.<sup>[14]</sup> In *Rigveda* and *Atharvaveda* *Pandu* has been described by the name of *Vilohita*, *Halima* and *Haribha*.<sup>[15]</sup>

**TYPES OF PANDU ROGA**

*Acharya Charak* described the disease under five categories namely

*Vataja*, *Pittaja*, *Kaphaja*, *Sannipataja* and *Mridabhakshanajanya*<sup>[16]</sup> and *Acharya Susrutha* has accepted only four types of *Pandu* excluding *Mridabhakshanajanya Pandu*<sup>[17]</sup>, they are: 1. *Vataj Pandu* 2. *Pittaj Pandu* 3. *Kaphaj Pandu* 4. *Sanipataj Pandu*

*Acharya Harita* mentioned eight types of *Pandu* in *Harita Samhita* and described *Kamla*, *Kumbhakamla*, *Halimaka* as their Synonyms.<sup>[18]</sup>

**SAMANYA NIDANA (CAUSATIVE FACTORS):**<sup>[19],[20]</sup>

The etiological factors of *Pandu Roga* mentioned in *Charka*, *Sushruta* and other *Samhitas* can be broadly classified into 3 groups. (*Charka Chikitsa* 16/8; *Sushruta Uttarsthan* 44/3) 1. *Aharaj Nidana*. 2. *Viharaj Nidana*. 3. *Mansik Nidana* 4. Other diseases i.e., *Nidanarthaka Roga*.

- 1) **Aharaj Nidana-** Food or diet plays an important role in the normal development and maintenance of different *Dhatu*s as well as in the vitiation of *Dosha*.
  - Excess intake of *kshaar* (alkaline), *amla* (sour), *lavan* (salt), *ushna* (hot) and *teekshna* (penetrating) *Ahaar*.
  - The food/*Ahara* which is *virudhha* (incompatibles) and *asatmya* (unwholesome)
  - Intake of *Nishpav*, *Masha*, *Pinyak* and *Til Tail* in excess.
  - Excess consumption of wine (*Madya*), eating mud (*Mrida*) and *Mridu Ahaar*
- 2) **Viharaj Nidana:**
  - Excessive *Diwaswapan*, *Vyayama* and *Maithun*.
  - *Pratikarma Vaishamy* (faulty administration of *Panchakarma*) and *Ritu Vaishamy* (faulty management of seasonal regimen)
  - Suppression of natural urge (*Vega Dharan*)
- 3) **Mansik Nidana:**
  - *Mansik nidana* i.e., anxiety, fear, anger, and grief have a major role in the manifestation of *Pandu*.
- 4) **Other /Secondary/Nidanarthaka causes –**  
In *Ayurvedic* literature there is an indication of a correlation between various diseases and *Pandu Roga* either as a symptom or as *Upadrava*. So, all these can be causes of *Pandu* i.e., *Nidanarthaka Roga* of *Pandu*. E.g., *Raktatipravartana*, *Raktaarsha*, *Raktarbuda*, *Asrigdara* or *Raktapradara*, *Rajyakshama*, *Punaravartaka Jwara* etc. which can directly or indirectly vitiate *Vata-Pitta Dosha* singly or in combination and manifest as *Pandu Roga*

**PURVARUPA (PREMONITORY SYMPTOMS):**

According to *Acharya Charak*:<sup>[21]</sup>

*Tasya Lingam Bhavishyath Hridyaspandanam Rokshyam Swedabhavah Shramsathata.* (Ch. Chi. 16/12)  
*Hridyaspandanam* (Palpitation), *Rokshyam* (dryness of the skin), *Swedabhavah* (absence of sweating), *Shramsathata* (fatigue)

According to *Acharya Sushruta*:<sup>[22]</sup>

*Twaksphotnam Sththevangatrasadoo Mridbhakshanam Prekshankootsothah. Vidmutrapitatwamathaavipako Bhavishyasya Purahsarani.* (Su.U. 44/5)

*Twaksphotnam* (cracking of skin), *Shthevan* (salivation), *Gatrasada* (sense of lassitude in the limbs), *Mridbhakshanam* (liking for mud intake), *Prekshankootsothhah* (swelling over eye socket), *Vid-Mutra Pitata* (yellow colour of stool-urine), *Avipaka* (Indigestion) these are mentioned by *Sushruta*.

### **RUPA (SYMPTOMS):**

*Acharya Charak* has mentioned the *Samanya* and *Vishesh rupa* of *Pandu Roga* in chapter 16 of *Chikitsa Sthaan* according to the *Dosha* involvement which is mentioned below.

*Samanya Rupa*: [23]

- Loss of *Indriye Bala*, *Tej*, *Veerya* and *Oja*.
- Loss of *Bala*, *Varna* and *Agni* (power of digestion).
- *Karnashveda* (tinnitus), *Durbalya* (general weakness), *Annadwesa* (aversion towards food), *Shrama* (fatigue), *Bhramanipidita* (giddiness), *Gatrashula* (body ache), *Jwara* (fever), *Shwasa* (breathlessness), *Gaurva* (heaviness), *Aruchi* (anorexia).
- *Akshikutashoth* (swelling over orbit), *Shirnaloma* (hair fall), *Hataprabha* (body complexion become greenish)
- *Kopana* (dislikes cold things), *Nidralu* (feeling of drowsiness), *Alpawaka* (avoid speaking), *Shthevan* (spitting frequently)
- *Pindikodweshthana* (calf muscle pain), *Katiuru Paad Ruka* (pain and weakness in the lumbar, thighs and feet), *Arohaneayasa* (patient feels exhausted on climbing)

### **VISHISHTA RUPA:**

*Acharya Charka* had classified *Pandu Roga* into 5 types; based on these types *Vishesh Rupas* are described. [24], [25]

1. *Vataj Pandu*: - *Krishna-Panduta* (black and pale yellow discolouration), *Rukshata* (roughness), *Aruna-Angatam* (Reddishness of the body), *Angmarda* (body ache), *Ruja* (pain), *Toda* (Pricking type of pain), *Kampa* (tremor), *Parshvashiroruja* (pain in chest-head), *Varchashosh* (dryness of stool), *Aashyavairasya* (distaste in mouth), *Shopha* (edema over body parts), *Aanah* (constipation), *Bala-Kshaya* (weakness).

2. *Pittaja Pandu*:- *Pita-Haritabhata* (complexion become either yellow or green), *Jwara*, *Daha* (burning sensation), *Trishna* (excessive thirst), *Murchha* (fainting), *Pipasa*, *Pitamutrashakruta* (yellowish discolouration of urine and stool), *Sweda* (profuse sweating), *Sheetakamta* (increase desire to take cold things), *Katukasayta* (feeling pungent taste in mouth), *Ushnaamlanupashyata* (uneasiness for hot and sour things), *Vidahe vidagadhe Anne* (feeling of burning sensation during indigestion of food), *Daurgandhya* (foul smell of body), *Daurbalya* (weakness), *Bhinnvarcha* (diarrhea)

3. *Kaphaja Pandu*:-*Gaurava* (heaviness), *Tandra* (Drowsiness), *Chhardi*, *Shvetavbhasta* (whitish complexion), *Praseka* (excessive salivation), *Lomoharsha* (Horripilation), *Murchha* (Fainting), *Bhrama* (giddiness), *Klama* (mental fatigue), *Sada* (looseness of body parts), *Kasa*, *Shwasa* (dyspnoea), *Alasya* (laziness), *Aruchi* (anorexia), *Vaka-swaragraha* (obstruction of speech and voice), *Shukla Mutra-Akshivarchasa* (whitish discolouration of urine, eye and stool), *Katurukshoshna Kamta* (feeling to take pungent, hot and dry things), *Shwayathu*, *Madhuryasyata* (sweetishness in mouth).

4. *Tridoshaja Pandu*: - Sign and symptoms of all the three vitiated *Doshas* are present, and this is extremely intolerable because of developing complications.

5. *Mridbhakshanajanya Pandu*: - *Bala-Varna-Agni Nash* (loss of strength, complexion, and power of digestion metabolism), *Ganda-Akshikuta-Bhrupad-Nabhi-Mehan Shotha* (oedema on cheek, eye socket, eyebrow, feet, umbilical region, genital parts), *Krimi Koshta* (Appearance of intestinal worm), *Atisaryet Mala Sasruka Kapha* (diarrhoea associated with blood and mucus).

### **SAMPRAPTI (PATHOGENESIS)** [26]

*Acharya Charaka* has mentioned the *Samprapti* of *Pandu* in *Chikitsa Sthan*. According to him, due to consumption of *Nidana*, *Pitta* located in the *Hridaya* (*Sadhak Pitta*) gets aggravated and being expelled from *Hridaya* by powerful *Vata* and it enters the *Dash Dhamanya* (attached to the heart) and circulates all over the body. This aggravated *Pitta* reaches the space between skin and muscle tissue and brings vitiation in *Kapha*, *Vata*, *Asrika*, *Twaka* and *Mamsa*. This leading to abnormal types of colouration like *Pandu*, *Haridra* and *Harita* to the skin.

### **SAMPRAPTI GHATAKA:** [27]

- *Dosha* – *Pitta Pradhan Tridoshaja*
- *Pitta* - *Sadhaka*, *Ranjaka* and *Bhrajaka*
- *Kapha* – *Avalambaka*, *Kledaka*
- *Vyana*- *Vyan Vayu*
- *Dushya* - *Twaka*, *Rasa*, *Rakta*, *Mamsa* and *Meda*.
- *Strotas* – *Rasavaha*, *Raktavaha*
- *Stroto Dushti* - *Sanga* and *Vimarga Gamanam*.
- *Agni* - *Jatharagni* and *Dhatvagni*.
- *Agni Dushti* - *Mandagni*
- *Udbhavasthaan* - *Amashaya*

- *Adhishthana - Twaka Mamsa Abhyantara*
- *Vyaktasthaan - Twaka*
- *Sancharasthaan – Twaka & Mamsa*
- *Svabhav – Chirkari*

### SADHYA-ASADHYATVA:

Patient of persistence chronic *Pandu Roga* whose *Dhatu* gets *Khar* does not cure. Also develops oedema observes all the objects yellowish in colour. *Sharir Dhatus* becomes *Ruksha* and a decrease in *Bala* and *Varna* occurs and *Shotha* develops. *Rogi* suffers from constipation and passes loose stools with mucus having greenish discolouration and becomes *Deena*, suffers from *Murcha* and *Trushna*.<sup>[28]</sup>

### CHIKITSA:

According to *Acharya Charak*:<sup>[29]</sup>

*Tatra Panduvamyi Snigdhatateekshnaurdhvaaranulomikeh Sansodhyo Mriduvitkteeh Kaamli Tu Viraichne. (Ch.Ch.16/40)*

According to *Acharya Charak* in *Sadhya Pandu Rog*, *Teekshna Vaman* and *Virechan* should be done.

According to *Acharya Sushruta*:<sup>[30]</sup>

*Harechha Doshan Bahushoalpamatrach Shvayedhhi Doshesvtinirharatesu (Su. Ut.44/22)*

Means in *Pandu Roga*, *Dosha* which get situated in *Dhatus*, *Srotas* and *Ashayas* should be removed by *Vaman* and *Virechan* repeatedly if not done so then these *Doshas* cause *Shotha* in the different body part. *Snehana Karma*: in *Pandu Rogi* there is *Sneha- Abhava* (deficiency) and the *Doshas* get adhered to *Shakhas* therefore *Snehan* is essential to bring the *Doshas* in *Koshtha* and correct *Rukshata*. In *Pandu Rogi* both *Bahya* and *Abhyantara Snehana* are indicated. For *Abhyantara Snehana* *Acharya Charak* indicated some medicated *Ghee* i.e., *Panchagavya Ghrit*, *Mahatiktak Ghrit*, and *Kalyanak Ghrit* etc. *Vamana* and *Virechana Karma*: *Samyaka Snehan* and *Swedana* bring the *Doshas* into *Koshtha* and by the action of *Vaman* or *Virechana Karma* they are expelled out of the body by their action. *Virechana* is considered as best *Shodhanopakrama* for *Pitta Dosha*. So, *Virechana* is most suitable in *Pandu Roga*.

### Shamana Chikitsa:

- *Vishesha chikitsa*:
- In *Vatika Pandu Snigdha Guna Pradhan Aushadha* are to be used internally.
- In *Pittaja Pandu Tikta Rasa* and *Shitaveerya Pradhan Aushadha* are to be used internally.
- In *Kaphaja Pandu Katu-Tikta Rasa Yukta* and *Ushna Veerya Pradhan Aushadha* are to be used internally.
- In *Sannipataja Pandu Mishrit Guna Aushadha* are to be used internally.
- In *Pandu Poga Vanaspatika* and *Khanija Yoga*, *Asava Arishta*, *Avaleha*, *Churna Yoga*, *Vati Yoga* are used.

### MRIDBHAKSHANA PANDU:

The ingested soil should be removed from the body by *Tikshna Sansodhan (Vaman and Virechana)* by evaluating the *Shaaririk* and *Agni Bala* of *Rogi*. After the *Shodhana* when the soil gets out of the body then *Agnivardhak* and *Balvardhak* medicated *Ghrit* should be used to bring strength to the body.

### UPADRAVA:

According to *Acharya Sushruta Aruchi*, *Pipasa*, *Vaman*, *Jwara*, *Murdharuja*, *Agnisada Shophya*, *Kanthagata Abalatwa*, *Murcchha*, *Klama* and *Hrudayapidana* are the *Updrava* of *Pandu Roga*.<sup>[31]</sup>

### PATHYA-APATHYA

*Pathyahara*: According to *Acharya Charak*:<sup>[32]</sup>

- *Shalianna*, *Yava*, *Godhoom* mixed with *Yusha* prepared from *Mudga*, *Adhaki* and *Masur*
- *Jangal Mamsa Rasa*
- *Panchagavya Ghrit*, *Mahatiktaka Ghrit* and *Kalyanaka Ghrit* used for *Snehan Karma*. According to *Acharya Susruta*:<sup>[33]</sup>
- *Pandu Rogi* must use *Arishta* prepared from *Guda*, *Sharkara* (sugar) and *Shahad* (honey)
- *Asava* prepared from *Mutra* and *Kshara* should be used
- *Jangala Mamsa Rasa* added with *Sneha* (fat) and *Amalaka Swaras* should be used

➤ *Apathyahara*: In *Bhaisajya Ratnavali* following *Apathya Aahar* are mentioned:<sup>[34]</sup>

- *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).

### ARISHTA LAKSHANA

*Acharya Sushruta* mentioned fatal signs and symptoms of *Pandu Roga* in *Sutra Sthana (S.Su.33/23)*, which are<sup>[35]</sup>

- *Pandu Dhantnakha* • *Pandu Netra* • *Pandu Shangtadarshi*

❖ **DISCUSSION**

*Pandu Roga* is *Pitta pradhana vyadhi*, *Pitta* is responsible for the normal colour of the body but when it gets vitiated, *Panduita* (Pallor) occurs. Though *Pitta* is *Pradhana Dosha* in *Pandu Roga*, *Vata Dosha* also plays a crucial role in the manifestation of *Pandu Roga*, mainly *Vyana Vayu* has a relation with *Samprapti* of *Pandu Roga*. *Pandu* is a *Rasvaha Srotas Vyadhi* from which a lot of people suffer. In *Samhitas* most of the *Acharyas* have described five types of *Pandu Roga*, i.e., *Vatika*, *Paittika*, *Kaphaja*, *Tridoshaja* and *Mridabhakshhanajanya Pandu*. The daily faulty routine activity related to mental or physical, faulty dietary habits like *Mridikabhakshana*, taking food deficient in quality and quantity, *Nidanarthaka Roga* is some etiological agents of *Pandu Roga*. *Acharya Charaka* mentioned three premonitory Symptoms of *Pandu Roga* i.e., *Hridyaspandanam*, *Rokshyam* and *Shram* which indicate its future presence. Also, in *Charak Samhita Samanya* and *Visheshrupa* of *Pandu Rog* is mentioned. *Pandu* is *Sadhya Roga* but in later stages, due to chronicity, it develops some complications. Hence, it is necessary to treat it in the early stage. According to *Acharya Charak* in *Sadhya Pandu Rog* medicated *Teekshna Vaman* and *Virechan* should be done. For the diagnosis and effective treatment, a physician must have complete knowledge of *Pandu Roga* by different *Samhitas*.

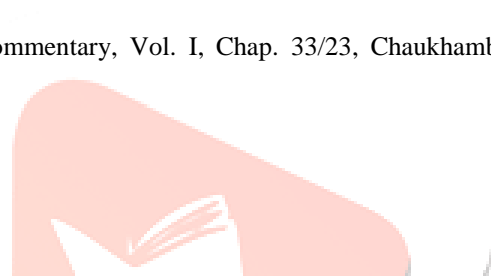
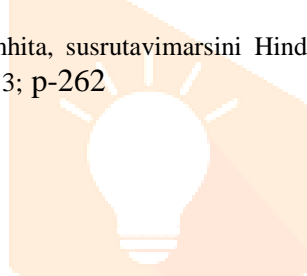
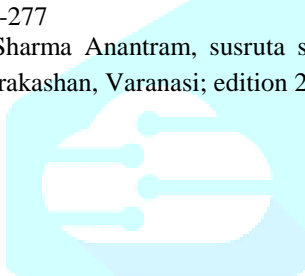
❖ **CONCLUSION**

Now a day, numbers of patients suffering from *Pandu Vyadhi* are seen due to modern lifestyle, improper dietary habits in routine and the use of modern medicines. *Pandu* is a *Varnopalakshita* and *Pitta Pradhana Vyadhi* which is responsible for the normal colour of the body. *Pandu* can be correlated with Anaemia. In *Ayurvedic* literature vast description of *Pandu Roga* and *Chikitsa* is given. To treat a *Pandu Rogi*, a physician must have complete knowledge of different aspects of *Pandu* like *Nidan*, *Roopa*, *Poorvaroopa*, *Samprapti*, and several *Chikitsa Yoga*, *Sadhyaasadhya*, *Arishtalakshan* etc. from all *Samithas*, *Nighantu*, and other literature.

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