Ahara (dietary habits) and Vihar (lifestyle) play pivot role in health or manifestation of various diseases. Erroneous dietary habits and lifestyle produce disturbance in equilibrium of Doshas which further lead to manifestation of various diseases. Pandu Roga is a disease entity described in Ayurvedic texts, which is characterized by the pallor complexion of the skin of the diseased person. This article is based on the Etiopathogenesis of Pandu Roga as described in various Ayurvedic literatures. Pandu Roga shows great resemblance to the clinical picture of Anaemia. In Ayurveda, Roga and Rogi Pariksha are the key factors for making diagnosis and selection of the treatment. Understanding of Etiopathogenesis and classification of Pandu Roga plays an important role in effective management of the disease.

**Key words:** Pandu Roga, Etiopathogenesis of Pandu, Anaemia

**INTRODUCTION**

Health is the state of equilibrium of Doshas and Agnis; normal functioning of Dhatus and Malas along with the well being of soul and unimpaired senses and cheerful mind. Imbalance state of these entities is state of disease. Pandu Roga is a disease entity described in Ayurvedic texts, which is characterized by the pallor complexion of the skin of the diseased person. Almost all classical Ayurvedic texts described Pandu Roga which includes various types of anaemia. The derivation of Pandu Roga is mentioned as patient’s skin resembles like colour of Pollen grains of Ketaki flower. Pandu Roga is one of the commonest diseases affecting all age groups and is commonly present in economically poor people because of under nourishment and malnourishment. Acharya Charak stressed that Pandu is a disease of Rasavaha Srotas. He has mentioned Pandu in Santarpanjanya Vyadhi also. The symptoms of Pandu
Pandu Roga such as Alpa-rakta, Shoonakshi-koota, Sadana, Anna-
dwesh etc. bear great resemblance to the clinical picture of
Anaemia like low haemoglobin, orbital oedema, fatigue, anorexia etc. Anaemia roughly affects one third population
in the world,\(^7\) among which approximately 2 billion people are suffering with Iron deficiency anaemia,\(^8\) out of which 90\% live in third world countries including India.\(^9\) It is the most common nutritional disorder in the world.\(^10\) The WHO report mentions iron deficiency as 9\(^{th}\) of 26 preventable risks to disease, disability and death in the world today. This also quotes that anaemia as economic scourge not medical problem.\(^11\) The second aim of Ayurveda is to relieve the mankind from the ailments and for the success of this aim, first Roga and Rogi Pariksha should be done, then medicines are selected for the treatment.\(^12\)

**MATERIAL AND METHODS**

Detailed description of Pandu Roga is found in Vrihat-trayi
and Laghu-trayi. The great sages of Ayurveda i.e. Agnivesha, Shusruta, Vagbhatta, Madhava, Sharangdhara, Bhavmishra, Kashyapa, Bhel, Harit, Chakrapani, Vangasena etc. have elaborated Pandu Roga, Pandu Rogi or Pandu Varna at various places in their respective texts. References from Charak Samhita, Sushruta Samhita, Ashtanga Hrudaya and Madhava Nidana were reviewed for this article.

**ETIOPATHOGENESIS (NIDANA PANCHAKA) OF
PANDU ROGA**

1. **Nidana (Etiological Factors):**\(^13,14,15,16\)

   In Ayurvedic treatment perspective, Nidana is said to be most important as the avoidance of etiological factor
forms the first and foremost line of treatment.\(^17\) Nidana of
Pandu Roga are classified into three categories viz. Aharaj
(dietary factors), Viharaj (habitual factors) and Manasika
Nidana (mental etiological factors).

**Table 1. Aharaja, Viharaj and Manasika Nidana of
Pandu Roga**

| Sr. | Aharaja Nidana | Viharaj Nidana | Manasika Nidana |
|-----|----------------|----------------|----------------|
| 1   | Kshara-atisevana | Ativayyama     | Bhaya          |
| 2   | Amla-atisevana  | Atiyayyaya     | Chinta         |
| 3   | Lavan-atisevana | Atayasa        | Krodha         |
| 4   | Katuka-atisevana| Amatisara Samgraha | Kama    |
| 5   | Atiushna-atisevana | Dushita Rakta nigraha in Raktarsha | Shoka |

2. **Rupa (Expressed Clinical Features):**

Acharya Susruta and Madhava have not described the
general clinical features of Pandu Roga. Acharya Charaka\(^22\)
and Vagbhatha\(^23\) described following Rupa of Pandu Roga:

**Table 3. Samanya Rupa of Pandu Roga according to
Charaka and Vagbhatha**

| Sr. | Symptoms | Ch. | A.H. | Dusha | Dushya | Srotas |
|-----|----------|-----|------|-------|--------|--------|
| 1   | Arohana Ayasa | +   | Vata, Kadha | Rasa | Rasavaha |
| 2   | Akshi Kata Shotha | +   | Kapha | Rasa | Rasavaha |
| 3   | Alpavak | +   | Vata | Rakta | Rasavaha |
| 4   | Aruchi | +   | Kapha | Rasa | Rasavaha |
| 5   | Annadvesha | +   | Kapha | Rasa | Rasavaha |
| 6   | Balakshaya | -   | Vata, pitta | Rasa | Rasavaha |
| 7   | Bhrama | +   | Vata, pitta | Majja | Majjavaha |
| 8   | Durbalya | +   | Vata, pitta | Sapia Dhatu | Rasavaha |
| 9   | Dhatu Gaurava | +   | Kapha | Rasa | Rasavaha |
| 10  | Dhatu Shatihila | +   | Pitra | Rasa | Rasavaha |

**Table 2 Purvarupa of Pandu Roga**

| Sr. | Purvarupas | Cha. | Su. | A.H. | M.N. |
|-----|------------|-----|-----|------|------|
| 1   | Avipaka | -   | +   | -    | +    |
| 2   | Akshikoota Shotha | -   | +   | -    | +    |
| 3   | Aruchi | -   | -   | +    | -    |
| 4   | AlpaVahnita | -   | -   | +    | -    |
| 5   | Anga Sada | -   | -   | +    | -    |
| 6   | Gatra Sada | -   | +   | -    | +    |
| 7   | Hrid Spandanam | +   | -   | +    | -    |
| 8   | Mutra Pitata | -   | +   | -    | -    |
| 9   | Mrid Bhakshanaechchha | +   | -   | -    | -    |
| 10  | Rukshata | +   | -   | +    | -    |
| 11  | Swedabhabha | +   | +   | -    | +    |
| 12  | Shrama | +   | -   | +    | -    |
| 13  | Shivanadhikya | -   | +   | -    | +    |
| 14  | Twakaphutana | -   | -   | +    | -    |
| 15  | Varcha Pitttavam | -   | +   | +    | +    |
If a person of Pitta Prakriti takes Pitta aggravating Ahara-Vihara in excess, Pitta Dosha gets vitiated and gets accumulated in the body of that person. It vitiates the Rasa and Rakta along with Mamsa Dhatu and causes Pittaja Pandu Roga. The clinical features of Pittaja Pandu Roga according to various Acharyas are summarized in the Table no. 6:

**Table 6. Clinical features of Pittaja Pandu**

| Sr. | Lakshana | Cha. | Su. | A.H. | M.N. |
|-----|-----------|-----|-----|------|------|
| 1   | Pitata    | +   | -   | -    | -    |

**Vataja Pandu Roga**

When Pandu Roga is caused by aggravated Vata Dosha due to intake of Vata vitiating factors, is called Vataja Pandu Roga. The clinical features of Vataja Pandu according to different Acharyas are summarized in the Table no. 5:

**Table 5. Showing clinical features of Vataja Pandu Roga**

| Sr. | Lakshana | Cha. | Su. | A.H. | M.N. |
|-----|-----------|-----|-----|------|------|
| 1   | Krishna Panduta | +   | -   | -    | -    |
| 2   | Krishnetratvam | -   | +   | +    | -    |
| 3   | Krishnasiravandhatava | -   | +   | -    | -    |
| 4   | Krishnakhatva | -   | -   | -    | -    |
| 5   | Krishnamanatva | -   | -   | -    | -    |
| 6   | Arunanakhatva | -   | -   | +    | -    |
| 7   | Arunasiratva | -   | -   | +    | -    |
| 8   | Aruna Netrata | -   | -   | +    | +    |
| 9   | Rakshangata | -   | -   | -    | -    |
| 10  | Raksha Siratv | -   | -   | +    | -    |
| 11  | Raksha Nuhatv | -   | -   | -    | +    |
| 12  | Raksha Netrata | -   | -   | +    | -    |
| 13  | Angomarda | -   | -   | -    | -    |
| 14  | Angaruka | -   | -   | -    | -    |
| 15  | Angatoda | +   | -   | +    | +    |
| 16  | Kampa | +   | -   | +    | -    |
| 17  | Parshavrukha | +   | -   | -    | +    |
| 18  | Shiroruka | +   | -   | -    | -    |
| 19  | Asayaravrasya | +   | -   | -    | -    |
| 20  | Anaha | +   | -   | +    | -    |
| 21  | Shopha | +   | -   | +    | -    |
| 22  | Balakshaya | +   | -   | -    | -    |
| 23  | Bhrama | -   | -   | -    | +    |
| 24  | Varchashosa | +   | -   | +    | -    |
| 25  | Gandhavitakata | -   | +   | +    | -    |
| 26  | Krishnavitakata | -   | +   | +    | -    |
| 27  | Arunavitakata | -   | -   | +    | -    |
| 28  | Rakshamurtana | -   | -   | +    | +    |
| 29  | Raksha Krishnaruna Twaka | -   | -   | -    | +    |

As mentioned earlier Acharya Sushruta, Madhava and Bhava Prakasha have mentioned the symptoms of Doshika Pandu. So before considering them, description about classification of Pandu is given. Table no. 4 shows different types of Pandu Roga:

**Table 4. Showing Classification of Pandu Roga**

| Types of Pandu Roga | Charaka<sup>24</sup> | Sushruta<sup>25</sup> | Vagbhatta<sup>26</sup> | Madhava<sup>27</sup> |
|---------------------|---------------------|---------------------|---------------------|---------------------|
| Vanaja              | +                   | +                   | +                   | +                   |
| Pittaja             | +                   | +                   | +                   | +                   |
| Kaphaja             | +                   | +                   | +                   | +                   |
| Sannipataja         | +                   | +                   | +                   | +                   |
| Mridadhakshana      | +                   | +                   | +                   | +                   |

**Rupa or clinical features of different types of Pandu Roga**

As mentioned earlier Acharya Sushruta, Madhava and Bhava Prakasha have mentioned the symptoms of Doshika Pandu. So before considering them, description about classification of Pandu is given. Table no. 4 shows different types of Pandu Roga:

- **Rupa or clinical features of different types of Pandu Roga**

  28,29,30,31
Due to excess indulgence of Kapha, Kaphaja Pandu Roga is caused. According to these Acharyas are Vaghbhata, Charaka and Madhava, in the Table no. 7:

### Table 7. Clinical Features of Kaphaja Pandu Roga

| Sr. | Lakshana                  | Cha. | Su. | A.H. | M.N. |
|-----|----------------------------|------|-----|------|------|
| 1   | Shevatvahhasata            | +    | -   | -    | -    |
| 2   | Shuklakshita               | +    | +   | +    | +    |
| 3   | Shuklanantya               | -    | +   | +    | +    |
| 4   | Shuklanakhatra            | -    | +   | +    | +    |
| 5   | Shuklasiravndhata          | -    | +   | +    | -    |
| 6   | Gaurava                    | +    | -   | -    | +    |
| 7   | Tandra                     | +    | -   | -    | -    |
| 8   | Chhardi                    | +    | -   | -    | -    |
| 9   | Praseka                    | +    | -   | -    | +    |
| 10  | Lomaharsha                 | +    | -   | +    | -    |
| 11  | Sada                       | +    | -   | -    | -    |
| 12  | Murchha                    | +    | -   | -    | -    |

#### Kaphaja Pandu Roga

In person who indulges in Tridosha vitiating Ahara and Vihara, all the three Doshas get simultaneously aggravated and causes Tridoshaja Pandu, which is showing all the symptoms of Vataja, Pittaja and Kaphaja Pandu.

Madhava Nidana and Bhavaprakasha mentioned this type of Pandu as Asadhya and described some specific symptoms of Tridoshaja Pandu. The symptoms of Tridoshaja Pandu according to these Acharyas are Jwara, Arochaka, Hrillasa, Chhardi, Trishna, Klama and Rogi becomes Kshina and Hatendriya.

#### Mrid-bhakshana janya Pandu Roga

Acarya Charaka, Vaghbhata and Madhava have considered this type of Pandu where Mridbhakshana stands as causative factor. Madhura Rasa earth or soil vitiates the Kapha Dosha, Lavana Rasa earth or soil vitiates the Pitta Dosha and Kashaya Rasa earth or soil aggravates Vata Dosha. When it enters Amashaya, it dries up the Dhatus and leads to discoloration of the body. ‘Jathragni’ remains unable to digest it and it enters in the Rasavaha Srotas in the same form as it was consumed and obstructs the Srotas and hinders the transfer of any physiologically needful substance. Due to this, the Indriyas of the patient become weaker to receive their own subjects properly and genuinely. The soil also damage Saptadhatus (Satva) and Jatharagni. The features are shown in the Table no. 8.
### Table 8. Lakshana of Mrid-bhksana Janya Pandu Roga

| Sr. | Lakshana                  | Ch. | A.H. | M.N. |
|-----|---------------------------|-----|------|------|
| 1   | Ananashopha               | -   | -    | +    |
| 2   | Akshikuta Shotha          | +   | -    | -    |
| 3   | Asyashotha                | +   | +    | -    |
| 4   | Arsha                     | -   | -    | +    |
| 5   | Atisara                   | -   | -    | +    |
| 6   | Balakshaya                | +   | -    | -    |
| 7   | Gandashotha               | +   | +    | +    |
| 8   | Krimikoshtha              | +   | +    | -    |
| 9   | Mehana Shotha             | +   | +    | +    |
| 10  | Nabhishotha               | +   | -    | -    |
| 11  | Purishasakaphama          | +   | +    | -    |
| 12  | Purishasakrimi            | -   | +    | -    |
| 13  | Padashotha                | +   | +    | +    |

### 3. Samprapti

Samprapti is the development of disease including the sequences of process or events from inception to the characteristic development of disease or in short, we can say Samprapti is the Vyadhi Vyapara Parampara.35

When the Pitta predominant Tridoshas are vitiated in the Rakta-aadi Dhatu of the body, it produces Shaithilya and Gaurava. Further, Dosha and Dushyas of the body are also vitiated, resulting in debility in the Varṇa, Bala, and Sneha etc. gunas of Oja. This results in deficiency of Rakta, Meda, and Sara along with Indriya Shaithiliya and Vaivarnya (i.e. discoloration of skin). It is termed as Pandu Roga.36

Acharya Chakrapani has commented on “Shaithilyam Tasya Dhatoonam Gouravam Cha Upjayte”. Here Gaurava is understood as “Kriyasu Asamrthyam” (unable to work). In Pandu Rogi, Dhatu become Nihsara (loss of potency), due to which Gaurava is found.37

When the Pitta Dosha located in its normal abode gets expelled from its site by the vitiated Vāyana Vayu, it enters into the Hridaya from where it reaches the Dasha Dhamani and is mobilized throughout the body and further gets localized in between the Tvak and Mamsa and vitiates the Kapha, Vata, Asrik, Tvak and Mamsa subsequently causing a variety of colour in the skin such as Pandu, Haridra, Harita etc. This condition is known as Pandu Roga.38 Figure no. 1 shows the schematic presentation of Samprapti of Pandu Roga.
Samprapti Ghatak:  

| Dosha   | Pitta – Sadhaka, Pachaka, Ranjaka, Bhrajaka, Alochaka  |
|---------|-------------------------------------------------------|
|         | Vata – Vjana, Samana                                   |
|         | Kapha – Kledaka                                        |
| Dushya  | Rasa, Rakta, Twak, Mamsa                               |
| Srotasa | Rasavaha, Raktavaha                                    |
| Srotodushti | Sanga                                                |
| Agni    | Jatharagni, Dhatvagni                                  |
| Agnidushti | Mandagni                                       |
| Vyakti  | Twak                                                   |
| Udabhava | Amashaya                                              |
| Adhishthana | Sharira (Twak – Mamsa Abhyantara)                      |

Complication (Upadrava)  

Sushruta only has mentioned the Updravas of Pandu. If Pandu Roga is not treated, then the following complications may arise:

- Aruchi (Anorexia)
- Klama (Exhaustion)
- Pipasa (Thirst)
- Hridayavapidana (Pericardial pain)
- Jwara (Fever)
- Shwasa (Dyspnoea)
- Murdharuja (Headache)
- Kasa (Cough)
- Agnisada (Loss of appetite)
- Atisara (Diarrhoea)
- Shopha (Oedema)
- Shula (Pain)
- Chhardi (Vomiting)
- Daha (Burning Sensation)
- Abalatwa (Weakness)
- Avipaka (Improper Digestion)
- Murchha (Fainting)
- Shotha (Inflammation)
- Swarabheda (Obstruction of speech)

Prognosis (Sadhyasadhyata)  

The various features available in this connection in Ayurvedic texts are summarized which when present during the course of disease, denote bad prognosis, they are as:

1) When the Pandu has been from long duration (Chirotpanna) and had led to excessive dehydration (Kharibhuta).

2) Patients who have developed oedema on account of long duration of disease (Kalaparakarshat Shuno) and whose vision has become yellow (Pitani Pashyati).

3) Patients who pass frequently yellow hardened and scanty stools (Baddha Alpa Vitaka) or loose stool which is green in colour and is mixed with mucous (Sakapha Harita Atisara).

4) Patient who have become depressed in spirit (Deena) and pale and whose body has become excessive clumsy (Swetatidigdhanga) and who is afflicted with vomiting, fainting, and thirst (Chhardi - Murchha - Trushardita).

5) The patients who in consequence of loss of and blood have developed pronounced pallor (Asrika Kshayadhvatvam).

Pathyapathy  

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

Table 9. List of Upshaya and Anupshaya Ahara, Vihara & Karma in Pandu Roga:

| Upshaya / Pathya | Anupshaya / Apathya |
|-----------------|---------------------|
| Ahara           |                     |
| Purana Shali, Yava, Godhuma. | Shimbi, Patra-shaha, Masha. |
| Mudga (Green Gram or Moonga), Adhaki (Pigeon Pea or Arhara), Masura (Lentils) Yusa. | Hingu, Sarshapa, Pin-yaka, Tambula, Sura. |
| Jangala Mamsa-rasa. | Atyambupana, Mrid-bhakshana. |
| Patola, Vrudha Kushmanda, Taruna Kadali-phala. | Tikshna and Lavana padartha, Sarva Amla padartha. |
| Jeevanti, Guduchi, Choula, Puranavara, Vartaku, Lashuna. | Guru, Vidahi and Virudha bojana. |
| Pakva Amra, Bimbi, Amalki, Haridra, Go-mutra, Takra, Go-ghrita, Navaneeta. | Madya-pana. |

Vihara
CONCLUSION

Present article shows that the Pandu Roga Nidanas are classified into Aaharaja, Viharaja and Manaskia Nidanas. The etiological factors causes Pitta predominant Tridosha Sanchaya, which further becomes aggravated and causes Mandagni at Aamashaya level and Udeernta of Hridayashrita Pitta. There is aggravation of Vata due to Vegavrodha etc. Nidana. This vitiated strong Vata takes Hridayashrita Pitta through the 10 Dhamani and undertakes Sthana Samshrya in Twak-Mamsantara and produce Poorva-roopa of Pandu Roga. The Dhatu vitiatedincludes Twak, Rakta and Mamsa resulting in discoloration of skin producing Pandur, Harita Varna. At Aamashaya level, the Mandagni produces Ama, resulting in Sroto-avrodha, leading in improper nutrition of Rasa etc. Dhatu, causing Kshaya of Bala, Varna, Oja etc. further produce the clinical manifestation of Alpa Raktu, Alpa Meda, Nissara and Indriya Shaithilya. These changes also contribute into manifestation in skin in form of discoloration. All the clinical manifestation together produces classical features of Pandu Roga through which we can diagnose the classification of Vata etc. subtypes.

Present article will be helpful in understanding the etiopathogenesis of Pandu Roga and in accurate diagnosis of the disease at subtle level. Confirmed and accurate diagnosis has key role in effective and timely management of the disease.

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