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## Critical review on etiopathology and Management of Pandu Roga

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**Abstract:** Ayurveda is not just a science of disease and drugs but has spheres for every aspect of life and this science was developed with the intention of ensuring a healthy being for all living beings. Nowadays due to modern lifestyle humans are progressively achieving the endless heights in the development of science and technology in order to adjust themselves every person is compelled to make his life fast and mechanical. This is a reason why people have no time for themselves and even shifted their food habits to fast food having very less nutritional value. Anaemia is common throughout the world. Several infections related to hygiene, sanitation, safe water also contribute to Anaemia. In Ayurveda Pandu has been described having similar symptoms of anaemia. there are five types of Pandu roga along with its specific Chikitsa for its types has been explained in the Samhitas. Vata causes Kshaya in the varna and swarupa of the red blood cells, therefore microcytic and hypo-chromic state of haemoglobin indicates toward Vataja Pandu.

**Key Words:-** Pandu, iron deficiency anaemia, Anaemia

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**INTRODUCTION:**

The word Pandu has been derived from "Padi Nashne Dhatu" by adding "Ku" Pratyaya in it, the meaning of which is always taken in the sense of "Nashan" i.e. the loss.<sup>[1]</sup> As Pandu has been kept under the group which is classified and named according to the change of colour, therefore "Nashan" should be considered in the sense of "Varna" or colour, which is further clarified by Charak with the word Vaivarna. Thus, Pandu is a disease in which there is Vaivarna or Change of normal colour of body. In Sanskrit literature meaning of Pandu is taken as Shweta, Pitasanwalit Shukla, shat Pandu i.e. Dhushar. Colour of Pandu can be compared with Sankha, Pakwa adanphala, Ketaki Dhuli (Pollengrains of Ketaki Flower), Apakwa Parushak Phala.<sup>[2]</sup> This means, while describing the signs and symptoms of different types of Pandu, several types of complexion like Haritadi Varna are described, but all of these are dominated by Panduta (Pale - Yellow colour) because of which this disease is called Pandu Roga.<sup>[3]</sup> So Pandu or Pallor of skin is first observed on the most superficial portion of the body and that is skin. But pallor should also be examined in other parts of the body described by Acharyas, as per them pallor should be also observed in Eyes, Palate, Tongue, Nose, Lips, Palms, Soles, Nails, Feces and also in urine. These are the important sites to be well examined, complete clinical observations or examine the patients for Panduroga. Means among the different

kinds of colours such as Pandu, Haridra and Harita, Pandu being more common among these so this disease is called as Pandu Roga itself. Shveta, Pitabha, Dhushara, Malina and Vivarna are the meanings coined for Pandu by different scholars like Charaka, Sushruta, Vagbhata, Dalhana and Arunadatta. In Sanskrit dictionaries the meaning of Pandu Varna has been found as Pita Samvalita, Shukla, Pitabhagardha etc. In Ashtanga Hridaya, Vagbhata described that perturbed Pitta getting located in between the skin and muscles vitiates Kapha, skin, blood and muscles and lodges within them. As a result, they acquire different colours such as yellowish white, yellow and green. Yellowish white (Pandu) being the most common discoloration, the disease is called the disease of pallor (Pandu Roga)<sup>[4]</sup>

**Etiology of Pandu:**

The etiology of diseases are enumerated in Ayurvedic texts under two headings-

- (i) General etiology.
- (ii) Specific etiology of the individual varieties of diseases.

In some disease, *Samanya Nidana* of concerned *Dosha* or group of diseases has been explained and in some disease *Vishesha Nidana* for that particular disease has been listed. In regard to causative factors of *Pandu Roga*, only Charaka and Madhava. Nidana has explained in detail, while in Sushruta Samhita, Ashtanga Sangraha and Ashtanga Hridaya etc. the causes of *Pandu Roga* have not been clearly described. However in

these texts, the causative factors provoking *Pitta Dosh* are described. References of *Nidana* of *Pandu Roga* is also available in *Harita Samhita*. *Pandu Roga* is considered as *Pitta Dosh* *pradhana*. The provoking factors of *Pitta* can also be taken as a cause of *Pandu Nidana* of *Pandu Roga* can be classified into following three categories:

1. *Aharaja Hetu*
2. *Viharaja Hetu*
3. *Nidanarthakara Roga*

The etiological factors of *Pandu* (*Aharaja*, *Viharaja* and *Nidanarthakara Roga*) are mentioned below in the chart form.

#### **Aharaja Hetu**<sup>[5][6]</sup>

Food or diet plays an important role in the normal development and maintenance of the different *Dhatus* of body. *Pandu Roga* may be caused due to indulgence of food containing more *Amla*, *Kshara*, *Lavana*, *Ushna*, *Rooksha Dravyas*. *Asatmya Bhojana* and *Viruddha Bhojana* may inhibit normal process by producing *Ama* and lead to disturbance in the process of digestion and assimilation. If *Ushna*, *Kshara* and *Amla* are used in excess it might be that, they may injure the gastric mucosa and hinder the normal absorption. Intake of *Dravays* like *Nishpav*, *Tila*, *Tila Taila*, *Pinyaka* etc, frequently causes *Mandagni* and *Tridosha Prakopa* but mainly *Pitta Prakopa* thereby causing the disease. These factors are harmful to health and may over stimulate the metabolism. *Kashaya Rasa* as an

aetiological factor of *Pandu* is found only in *Harita Samhita*. *Lavana Rasa* as a cause of *Pandu* is mentioned by *Charaka* and *Sushruta*, while *Amla Rasa* is mentioned by all *Acharyas*. *Amla Rasa* has been said to possess the property of *Mamsa Vidaha* and causes *Kaya Shaithilya*. Likewise, *Lavana Rasa* vitiates the *Rakta*. According to *Sushruta*, excessive intake of *Amla Rasa* and *Lavana Rasa* produces *Kayashaithilya* and *Vaivarnyata*. In one word this can also be said that both *Amla* and *Lavana Rasa* causes the aggravation of *Pitta Dosh* which plays the main role in the pathogenesis of *Pandu Roga*.

Excessive use of wine and spicy materials excites *Pitta Dosh* and if these substances are continued for long time certain pathological changes in the liver and stomach will be observed in the form of cirrhosis, gastritis or even ulceration which ultimately hampers the normal digestion and assimilation.

**Viharaja Hetu**<sup>[7][8]</sup>: This factors deals with both mental and physical activities of individual. In physical activities *Ratrijagarana* causes *Vata Prakopa* and *Divasvapna* causes *Kapha Prakopa*, due to *Ativyayama*, *Ativyavaya* and *Adhika shrama Vata Dosh* gets aggravated and it plays a role in the causation of *Pandu Roga*. *Vega* are Natural regulators of body functions. Habitual suppression of natural urges leads to *Vata Prakopa* which ultimately vitiates the other two *Doshas* and causes *Pandu Roga*. Climatic changes, disturbance of normal seasonal shifts or

abnormal season upset the normal function of the body. In mental activities, *Chinta*, *Shoka*, *Krodha* are important causes of *Pandu Roga*. These psychological factors vitiate the *Dosha* in the body, like *Chinta* and *Shoka* causes vitiation of *Vata Dosha*, *Krodha* causes vitiation of *Pitta Dosha* etc. These *Manasika Bhava* are also having their own effect on the *Agni* as well as *Dhatu Poshana*. These result in *Mandagni* and deficient nutrition to *Dhatu*s which are stated to be the causes of *Pandu Roga*.

#### **Causes related to Nidanarthakara Roga:**

In Ayurvedic literature *Pandu* has been mentioned as either symptom or as *Updravas* of various diseases. So, all these can be considered as *Nidanarthakara Rogas* of *Pandu Roga*. Some of which are *Raktatipravartan*, *Raktarsha*, *Raktarbuda*, *Asrigdara*, *Arsha* or *Kaphajarsha*, *Shvasa* etc. which directly or indirectly vitiates *Vata*, *Pitta* and *Kapha* singly or in combination. Though *Pitta* plays a predominant role in the manifestation of *Pandu Roga*, *Vata* and *Kapha* are also involved in the process. In context of, attainment of menarche it has been mentioned that —*Tad varshaat Dwadashaath Kaale Varthamana Asrik Punaha*” by Acharya Sushruta, indicating after 12 years of age, the *Raja Pravriti* starts in females. Thus, with its onset an additional requirement of formation of *Upadhatu Artava* arises, in view of it, if proper replenishment of *Rasa Dhatu* is not ensured by proper dietary intake, the adolescent girl may develop *Pandu*.

**Types of Pandu:** Acharya Sushruta, Madhava and Bhavaprakasha have mentioned the symptoms of *Doshika Pandu*.<sup>[9] [10] [11]</sup>

#### **1. Vataja Pandu Roga:**

Due to intake of *Vata* vitiating factors *Vata* gets aggravated and causes *Pandu Roga*. The *Lakshanas* of *Vataja Pandu* according to different Acharyas.

#### **2. Pittaja Pandu Roga:**

After taking *Pitta Prakopaka Ahara-Vihara* *Pitta Dosha* gets vitiates and gets accumulated in the body of the person of *Pitta Prakriti*, vitiates the *Rasa & Rakta* along with *Mamsa Dhatu* and causes *Pittaja Pandu Roga*. The *Lakshanas* of *Pittaja Pandu* according to different Acharyas.

#### **3. Kaphaja Pandu:**

Due to *Kapha* aggravating *Ahara* and *Vihara*, *Kapha* gets vitiates and causes *Kaphaja Pandu*. Madhava, Bhavaprakasha and Vagbhata have described the same symptoms of *Kaphaja Pandu* as Charaka and Sushruta. In the place of *Madhurasyata*, Vagbhata has mentioned the symptom *Lavana Vaktrata*. The *Lakshanas* of *Kaphaja Pandu* according to different Acharyas.

#### **4. Sannipataja Pandu Roga:**

In person who indulges in *Tridosha* vitiating *Ahara*, *Vihara*, all the three *Doshas* *Vata*, *Pitta* and *Kapha* get simultaneously aggravated and causes *Tridoshaja Pandu*, which is showing all the symptoms of *Vataja*, *Pittaja* and *Kaphaja Pandu*. Madhava Nidana and Bhavaprakasha described some special symptoms of *Tridoshaja Pandu* and

mentioned this type of *Pandu* is *Asadhya*. The symptoms of *Tridoshaja Pandu* according to these *Acharayas* are *Jwara*, *Arochaka*, *Hrillasa*, *Chhardi*, *Trishna*, *Klama* and *Rogi* becomes *Kshina* and *Hatendriya*.

##### 5. Mridbhakashanjanya Pandu Roga:

*Acharya* Charaka, Vagbhata and Madhava have given this type of *Pandu* where *Mridbhakshana* stands as causative factor. The earth or Soil of *Madhura Rasa* vitiates the *Kapha Dosha*, the earth or soil of *Lavana Rasa* vitiates the *Pitta Dosha* & the earth or soil of *Kashaya Rasa* aggravates *Vata Dosha*. It enters *Amashaya*, dries up the *Dhatu*s and leads to discolouration of the body. '*Jathragni*' remain unable to digest this and it enters in the *Rasavaha Srotas* in the same form as it was consumed & obstructs the *Srotas* and this does not allow any physiologically needful substance to pass through. By this, the *Indriyas* of the Patient become weaker to receive their own *Arthas properly* and genuinely. This also damage *Saptadhatu (Satva)* and *Jatharagni*.

**Samprapti of Pandu Roga:** <sup>[12] [13]</sup> *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*. When the *Pitta Dosha* located in its normal abode gets expelled from its site by the vitiating *Vayu*, it gets entry into the *Hridaya* from where it reaches the *Dasha Dhamani* and is mobilized throughout the body. It 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*. *Sushruta* has mentioned that *Pandubhava* is caused by discolouration of *Tvak* by the vitiating *Rakta* due to intake of *Ahita Ahara Vihara*<sup>[14]</sup> Vagbhata has mentioned the *Samprapti* given by Charaka. The pathology of *Pandu Roga* is mainly concerned with vitiation of *Pitta Dosha* which in turn vitiates the *Rakta*, leading to condition of *Pandubhava*. Thus, *Pitta* being the *Pradhana Dosha* or main factor in the causation of *Pandu Roga*. All functions of it are affected more or less, but as the main seat of the disorganization is the *Rakta*, the *Ranjana* function of *Pitta* is to bear the burn. *Ayurveda* considers that due to *Nidana Sevana* the process of *Pandu Roga* is commenced with the *Prakopa* of all three *Doshas* in the *Dhatu*s. The *Pitta Dosha* takes leading part in the production of *Dhatu Shaithilya* and *Dhatu Gaurava*. This leads to *Bala Kshaya, Varna Kshaya* and *Oja Kshaya*. Thus, the *Pandu Roga* is stated to be afflicted with *Rakta Alpta, Meda Alpta, Nih Sarata, Vivarnata* and *Shithilendriyata*. *Panduta* is an invariable feature.

**TREATMENT OF PANDU ROGA Snehana:** In case of *Pandu Roga*, there is diminution *Snehabhava* of *Rakta, Meda, Oja* etc. and the body becomes dehydrated, emaciated, and deficient in lipid substances which provoke *Vata Dosha* causing further deterioration in the lipid substances

which provokes *Vata* causing further deterioration in the condition. For performing *Snehana Karma*, various preparations have been mentioned. For example, *Kalyanaka Ghrita*, *Rajani Ghrita*, *Triphala Ghrita*, *Tilvaka Ghrita*, *Dadimadi Ghrita*, *Danti Ghrita*, *Draksha Ghrita*, *Pancagavya Ghrita*, *Mahatikta Ghrita*, *Pancatikta Ghrita* etc. They can be used in various types of *Pandu* according to the predominance of *Doshas*, variation in pathogenesis and in symptoms. After completing the oleation therapy successfully the signs of which are, the *Vata* becoming *Anuloma*, the *Jatharagni* becoming activated, the stool being unctuous and loose, the body becoming soft and smooth. *Shodhana* can be performed directly after *Snehana* as *Svedana* is contraindicated in *Pandu*.<sup>[15]</sup>

**Shodhana:** *Vamana* and *Virecana Karma* both can be performed in *Pandu Roga* after proper oleation. Commenting on the performance of *Vamana* *Acharya Dalhana* has said that while performing *Vamana* in case of *Pandu Roga* one should always keep in mind about physical condition of the patients, the climate time and place. *Charaka* has mentioned *Madanaphala* as most suitable drug for emesis in case of *Pandu*. Similarly, for *Virecana* a long list of drugs has been mentioned in *Ayurvedic* texts. *Sushruta* has given more stress on *Haritaki* in all types of *Pandu*.<sup>[16]</sup>

**Shamana Chikitsa** (Palliative treatment): The treatment should be planned.

1. To correct the deficiency of extrinsic factor.
2. To stimulate the production of Intrinsic factor.
3. To stimulate the organs of haemopoiesis.
4. Along with these, treatment for the allied symptoms as a sequel of the pathogenesis should also be done.

**The palliative treatment should include –**<sup>[17]</sup>

1. Treatment according to predominance of *Doshas*
2. Specific treatment.
3. Treatment according to the predominance of *Lakshanas* (symptomatic treatment).

#### **1. Treatment according to predominance of Doshas:**

In cases of *Vatika Pandu*, the substances having *Snigdha Guna*, in *Paitika* the substances having *Madhura* and *Tikta Rasa* in *Kaphaja Pandu* drugs having *Ushna Virya* and in *Tridoshaja Pandu*, a mixture of all the above should be prescribed. In *Mritikabhakshanajanya Pandu*, the mud which may be composed of various indigestible and inaccessible substances obstructs various canals. Thus, it is necessary to remove it by strong purgation.

#### **2. Specific treatment**

*Vishishta Aushadhi* (Specific Drugs) - As already described that *Pandu* is predominantly due to lack of blood, or in other words this can also be said that, in *Pandu* there is diminution of its main constituents which along with other factors play major role in the normal erythropoiesis, causing development of Anemia. Correction in these

constituents and other associated factors will naturally be followed in increased blood production and ultimately improvement in Anemia or *Pandu*.

**3. In the treatment of *Pandu*, single drug or a combination of two or more drugs has been used. A description is given as:**

1. Single drug which has been used in *Pandu* are - *Lauha Bhasma, Mandura Bhasma, Pure Kaseesa, Shilajit, Vardhamana Pippali* etc.
2. Compound drugs which are of vegetable origin e.g., *Triphala, Phalatrikadi Kvatha, Punarnavashtaka Kvath, Vidangavaleha* etc.
3. Drug which are a combination of vegetable origin and animal origin e.g. *Mahatikta Ghrita, Pathya Ghrita, Rajani Ghrita, Gomutraharitaki* etc.
4. Drugs which are combinations of vegetable and mineral origin e.g., *Yogaraja, Shilajatuvasi, Navayasa Lauha, Mandura Vataka, Punarnava Mundura* etc.
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* etc.

## DISCUSSION

*Pandu roga* is considered as a Pitta Pradhana Tridosaja and Rasa Pradoshaja Vyadhi which is named on the basis of *Pandu Varna* which is a main sign of the disease. The etiologies of Iron

Deficiency Anemia are having similarities with that of etiologies of *Pandu roga*. All three forms of Agni viz *Jatharagni, Bhootagni, and Dhatvagni* are usually affected in the pathogenesis of *Pandu roga*.

*Alpa-Raktata, Nissara, Ojo-kshaya* and *Alpa-Vyadhikshmatva* are generally seen in *Pandu roga*. Similar features are seen in Iron Deficiency Anemia, where nourishment is hampered leading to reduced immunity and increased morbidity. *Kashyapa* has specifically mentioned the sites where pallor is evident like *Shveta Akshi, Nakha* and *Vaktra* and the term *Rudhira Spruha* mentioned by him means craving for blood. *Hetus* like *Ruksha, Ushna, Kshara, Katu Rasa Ati Sevana, Anashana, Ativyayama, Chinta, Shoka* causes *Agnimandya* which leads to *Dhatu Kshaya & Oja Kshaya*, later *Sthithilendriya, Twak Vaivarnya, Nissaratata* takes place & results in *Pandu*. Also due to *Rakta Sravaby Abighataja Hetumay* cause *Rakta Dhatu Kshaya* and cause *Pandu*.

According to subject the role of *Dosha, Dushya* in manifestation of *Pandu Roga* is described as below:<sup>[18]</sup>

**Role of Vata Dosha:** Though *Pitta* is *Pradhana Dosha* in *Pandu Roga*, *Vata Dosha* also plays an important role in manifestation of *Pandu Roga*. Out of five types of *Vata* mainly *Vyana Vayu* is related with the *Samprapti* of *Pandu Roga*. Vitiated *Vata* is responsible for *Kampa, Angasada, Gatrashula, Raukshya, Tvaka Parushya, Kati-Uru-Pada Ruk* etc.



**Role of Pitta Dosh:** Pitta is responsible for the normal colour of body but when it vitiates due to the same quality in nature it also vitiates Rakta and causes Pandu Roga which ultimately leads to Panduta of the body.

**Role of Kapha Dosh:** Kapha seems to play a vital role in the development of Panduta. According to Charaka, Pandu Roga occurs due to vitiation of all three Doshas. Aggravation of Kapha Dosh causes Mandagni which leads to Uttarottora Dhatu Aposhana and ultimately leads to Panduta of the body. It has also been stated that Santarpana which broadly means anabolism, brings about an increase in Kapha which in term may cause the disease by generating Ama and causing Mandagni. Thus, any diet which may increase Kapha Dosh, or any disease associated with increase in Kapha can cause a change in complexion or Panduta. Vitiation of Kapha Dosh is responsible for Gaurava, Nidradhikya, Mandagni, Alasya, Alpavak etc. Dushtyas of Pandu Roga: Charaka and Vagbhata have mentioned Tvak, Rakta and Mamsa as the dominant Dushtyas in Pandu Roga. Dhatus involved in the pathogenesis of Pandu Roga can also be understood by a detailed study of symptoms. The symptoms such as Aruci, Jvara, Panduta, Gaurava and Tandra are indicative of Rasa Dhatu Dushti. Angamarda indicates the involvement of both Rasa and Rakta Dhatu. Karshya is indicative of Mamsa Dhatu Dushti. Atisveda and Svedabhava are suggestive of involvement of Tvaca, Mamsa

Dhatu and Medo Dhatu. Shirnalomata is an important indicative of Asthidhatu. The loss of lusture and debility are suggestive of depletion of Ojas. Thus, among Saptadhatus mainly Rasa and Rakta Dhatu are involved in this disease.

**Rasa Dhatu:** According to Charaka, Sushruta and Vagbhata, Rasa Dhatu undergoes a change to produce Pandubhava. Charaka and Sushruta have mentioned Panduta as one of the diseases associated with the vitiation of Rasa. Charaka has already stated that vitiating Doshas get lodged in Rasadi Dhatus and produce the disease whereas Sushruta has mentioned that when the vitiating Vata as well as Ama affect the Rasa Dhatu, the disease is produced.

**Rakta Dhatu:** Charaka and Sushruta have clearly mentioned that the vitiation of all the three Doshas leads to Rakta Dushti and thereby Tvaca becomes pale in color. According to Harita, there is a decrease in the blood volume, as is clearly indicated by "Nayati Rudhirashoshana". Charaka has mentioned the word Alparakta for this condition.

## CONCLUSION

Pandu roga is considered as a Pitta Pradhana Tridosaja and Rasa Pradoshaja Vyadhi which is named on the basis of Pandu Varna which is a main sign of the disease. The etiologies of Iron Deficiency Anemia are having similarities with that of etiologies of Pandu roga. In pandu roga various types of shamana yoga is maintained according to the predominance of Doshas.

Vamana and Virecana Karma both can be performed in Pandu Roga after proper oleation.

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