

## EVALUATION OF NIDANA OF PITTAJA PANDU W.S.R. TO IRON DEFICIENCY ANAEMIA: AN OBSERVATIONAL STUDY

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### ABSTRACT

The science of *Ayurveda* is a well-recognized system of medicine which has unique Specialty in the field of *Ashtangas*. The concepts of *Nidana* and *Chikitsa* evolved since *Vedakala*. Because of generation gap the concepts appear to be misinterpreted or not fully developed. At this junction it is our moral duty to take up such studies to understand the concepts clearly and to pass the knowledge to younger generation. *Pandu* is a disease in which there is *vaivarna* or change in normal color of body. While correlating it into the modern medicine, the anaemia is the suitable term for this *Panduroga* because of equality in the meaning, signs and symptoms of this disease. Anaemia is the most common disorder of the blood and symptoms can be vague. The only way to diagnose most cases of anaemia is with a blood test. Iron deficiency Anaemia is the condition in which there is Anaemia and clear evidence of iron deficiency. The only important use of Iron in modern medicine is in the treatment of Iron deficiency Anaemia.

**KEYWORDS:** *Pittaja pandu*, Iron deficiency anaemia, *Nidana*

### INTRODUCTION

Any knowledge system grows and develops through continuous researches and re-evaluations. The pledged purpose of *Ayurveda* as a medical system is to ensure a healthier and longer life to the humanity. In the backdrop of the popularity of *Ayurveda* as an alternative or even an ultimate anchor to the psychosomatic and lifestyle related diseases, the time is ripe enough to seriously take up productive researches in such disorders where *Ayurveda* can offer a better hand than any other medical system. Blood is the every essence of life. Oxygen is required for all metabolic functions of the cells and production of energy for these activities.

*Pandu* is a disease characterized by pallor of body which strikingly resembles with 'Anaemia' of modern science, as this disease is caused due to reduction of number of RBCs per cumm of blood. *Rakta* has been considered as a key factor for the *Jeevana*, *Prinana*, *Dharana* and *Poshana karma* of the body<sup>1</sup>. Many a times it is seen that *Rakta* gets vitiated by *Doshas*, mainly by *Pittadosha* as *Rakta* is *Pittavargeeya* and disease like *Pandu* appear. In *Ayurveda*, *Pandu* is considered as a specific disease with its own pathogenesis and treatment.

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considered as a specific disease with its own specific *Nidana*, *Purvarupa*, *Rupa*, *Samprapatti* and *Chikitsa*<sup>2</sup>. Thus an attempt has been made to study the disease *pittaja Panduroga* according to *Ayurvedic* texts. The word “Anaemia” comes from the Greek for “without blood”<sup>3</sup>. It is a deficiency of hemoglobin and the rare various grades of this deficiency. Anaemia can result from a large number of causes, including nutritional deficiencies, acute or slow loss of blood due to trauma or diseases, destruction of red blood cells due to various metabolic and immunological abnormalities. The population of India is increasing at a rapid rate and most of the people are living under poverty line, which cannot get quantitatively and qualitatively sufficient diet, or even pregnant ladies. So Anaemia is common throughout the world. Its main cause, Iron deficiency, is the most prevalent nutritional deficiency in the world. In the milder form, Anaemia is silent, without symptoms.

## OBJECTIVES

To study the *nidanas* of *pittaja pandu* w.s.r to iron deficiency anaemia.

## MATERIALS AND METHODS

**Literary Source:** Literary review of *Panduroga* and Iron deficiency anaemia has been collected from the *Brihathrayi's* and *Laghuthrayi's*.

**Clinical Source:** In this study a minimum of 60 patients has been selected from OPD and IPD of Shri Siddharoodha charitable teaching hospital of

N.K.Jabashetty *Ayurveda* medical College and PG center, Bidar-Karnataka.

### Inclusion criteria:

- Patients presenting with signs & symptoms of *Pittaja Panduroga*
- Hb% within the range of 6-10gm%
- Patients of either sex within the age group of 16–60years

### Exclusion Criteria:

- Pregnant woman
- Any other systemic disorders

### Nidana of Panduroga:

The general etiology or *Samanya Nidana* of *Panduroga* is described in *Charaka Samhita*. Which all factors mainly related to *Aharaja* and *Viharaja*. The word ‘*Nidana*’ is used in *Ayurvedic* classics in a broad sense. This word is derived from the Sanskrit *Dhaatu* ‘*Ni*’ which carries the meaning to determine (*Ni-Nishchaya Deeyate Jnanam*). This word either refers to etio-pathogenesis of the disease in general or the etiology of the illness in particular. From the perspective of treatment, *Nidana* is most important as the avoidance of etiological factor forms the first and foremost line of treatment. This is followed by the specific treatment as per the aetio-pathogenesis of the disease.

*Nidana* of *Panduroga*

can be classified into following two categories.

- Aharajanidana*
- Viharajanidana*

**Table.No.1 Showing Aharaja Nidana of Pandu Roga**

<b>Aharaja nidana</b>	<b>Cha<sup>4</sup>.</b>	<b>Su<sup>5</sup>.</b>	<b>A.H<sup>6</sup>.</b>	<b>M.N<sup>7</sup>.</b>
1. Kshara ati sevana	+	-		-
2. Amla ati sevana	+	+	+	+
3. Lavana ati sevana	+	+	+	+
4. Katu ati sevana	-	-	+	
5. Ushna ati sevana	+	-	+	
6. Tikshna ati sevana	-	+	+	+
7. Rukshanna ati sevana	-	-	-	-
8. Viruddha ati sevana	+	-		-
9. Asatmya bhojana	+	-	-	-
10. Nishpava	+	-	-	-
11. Manda ati sevana	+	-	-	-
12. Tila ati sevana	+	-	-	-
13. Tila taila ati sevana	+	-	-	-
14. Vidagdha bhojana	+	-	+	-
15. Mrudbhakshana	+	+	-	+
16. Vyapannasalilapanm	-	+	-	-
17. Vindya Prabhava Salila Jalapana.	-	-	+	-
18. Pitta Stanyapana	+	-	-	-
19. Vishama sevana	-	+	+	-

**Causes Related to Aharaja Hetu**

Food or diet plays the crucial role in the normal development and maintenance of the different *dhatu*s of body. *Panduroga* may be caused due to indulgence of food containing more *Amla*, *Kshara*, *Lavana*, *Ushna* and *Ruksha*. More intake of carbohydrates only milk and clay produce Anaemia. Protein in dairy products generally has little effect on Iron absorption. *Asatmya Bhojana* and *Viruddha bhojana* may inhibit normal process by producing *Aama* or Antisubstance and lead to disturbance of the digestive and assimilative process. If *Kshara* and *Amla* are used in

excess it might be that, they may injure the gastric mucosa first and then mixed with *rasa* may lead to haemolysis, and disturbed metabolism of various tissues following developing of Anaemia.

If person may use very hot substances in his diet daily, it may injure the gastric mucosa and by this may give rise to *Panduroga* due to improper digestion. Intake of *dravays* like *Nishpava*, *Tila*, *Tilataila*, *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*<sup>2</sup>. *Lavana rasa* as a cause of *pandu* is mentioned by *Charaka*<sup>4</sup> and *Sushruta samhitha*<sup>5</sup>. While *amlarasa* is mentioned by all *Acharayas*. *Amlarasa* has been said to possess the property of *Mamsavidaha* and causes *kayashaithilya*. Likewise, *lavanarasa* vitiates the *Rakta*. According to *Acharya Sushruta*, excessive

intake of *Amlarasa* and *Lavanarasa* produces *kayashaithilya* and *vaivarnata*<sup>2</sup>. Excessive use of wine and spicy materials excites *pittadosha* and if this substance 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 will produce Anaemia either by disturbing Vit B activity or *Ranjakapitta* i.e. intrinsic factor.

**Table.No. 2 Showing Viharaja Nidana of Panduroga**

<b>Viharaja nidana</b>	<b>Cha<sup>4</sup>.</b>	<b>Su<sup>5</sup>.</b>	<b>A.H<sup>6</sup>.</b>	<b>M.N<sup>7</sup>.</b>
1. <i>Ati Vyayama</i>	+	+	-	+
2. <i>Ati aayasa</i>	-	-	+	-
3. <i>Amatisarasamgraha</i>	-	+	-	-
4. <i>Bhaya</i>	+	-	-	-
5. <i>Chinta</i>	+	-	-	-
6. <i>Dushta Raktanigarha in Raktarsha</i>	+	-	-	-
7. <i>Diwasvapana</i>	+	+	-	+
8. <i>Krodha</i>	+	-	+	-
9. <i>Kama</i>	+	-	-	-
10. <i>Ratri jagarana</i>	+	-	-	-
11. <i>Ritu vaishamya</i>	+	-	+	-
12. <i>Shoka</i>	+	-	-	-
13. <i>Sneha vibhrma</i>	+	-	-	-
14. <i>Sneha atiyoga</i>	+	-	-	-
15. <i>Vegavrodha</i>	+	-	-	-
16. <i>Vegavidharana in Vamana karma</i>	+	-	-	-

#### **Causes related to Viharaja hetu**

This factors deals with both mental and physical activities of individual. In physical activities *Ratri jagrana* causes *vataprakopa* and *Diwasvapna* causes *kaphaprakopa* due to *Ativyayama*, *Ativyavaya*, *Adhikashrama*, caloric output, outbalancing of calories in the food takes

place, while is the cause of *Panduroga*, *Vegas* are Natural regulators of body functions. Habitual suppression of optimal positive health was always taken into consideration of all factors however minor they may appear. Climatic changes or disturbance or abnormal season upset the normal function of the body. In mental

activities, *Chinta*, *Shoka* all main causes of *Panduroga*. If person takes balanced diet with worries even at proper time the digestive function is disturbed and food would not properly digested. The result of *Mandagni* and deficient nutrition to *Dhatus* which is stated to be the causes of *Panduroga*. It is said that during *Krodha* there is RBC destruction in more numbers than normal. *Snehavibhrama*, <sup>2</sup>*Snehatiyoga*, *Amatisara samgraha* etc. have also been taken as the causes of this disease. Loss of blood or body fluids outbalance the blood formation. As is indicated, this may occur owing to some disease condition.

A clinical study of the facts observed by *Sushruta* in this regard done in the light of modern medical science will help to establish the validity of truth.

E.g., Acharya *Sushruta* has mentioned *Vyayama* as one of the causative factors in the development of *Pandu*<sup>2</sup>, which can be explained as: If any person is in habit of performing severe exercise, the metabolic activity of the body increase, the biochemical reactions are has tented resulting more production of carbon dioxide and water and liberation of energy which is utilized for the activity of body during exercise<sup>2</sup>. Thus, it is seen that there is loss of energy from the body during ever exercise and if one doesn't take adequate amount of nutrition to compensate loss then naturally the requirements will be obtained from the tissue of the body itself and ultimately, there will be general degeneration leading to *Dhatukshaya* and ultimately *Ojakshaya*. Moreover, due to

increase tissue metabolism, there is again tissue destruction Or *Dhatukshaya* as is mentioned by Acharya *Charaka*<sup>2</sup>. Thus an attempt has been made to study the nidanas of the pittaja *Pandu Roga* according to *Ayurvedic* texts in the parlance of Iron deficiency anaemia.

### **Iron Deficiency Anaemia Causes<sup>8</sup>**

Conditions that increase demand for iron, increase iron loss, or decrease iron intake, Absorption or use can produce iron deficiency. Certain clinical conditions carry an increased likelihood of iron deficiency. Pregnancy, adolescence, periods of rapid growth, and an intermittent history of blood loss of any kind should alert the clinical to possible iron deficiency. A cardinal rule is that the appearance of iron deficiency in and adult male means gastro intestinal blood loss into proven otherwise signs related to iron deficiency depend upon the severity and chronicity of the anaemia in addition to the usual signs of anaemia fatigue, pallor, and reduced exercise capacity. Cheilitis (swollen patches in the corners of mouth) and koilonychias (spooning of the fingernails) are signs of advanced tissue iron deficiency. The diagnosis of iron deficiency is typically based on laboratory results.

## **DISCUSSION**

### **Discussion on Nidana of Pittaja Pandu Roga**

#### **Aharaja Nidana**

*Nidana Panchaka* is the combination of parameters, which are used in the diagnosis of the disease. In *Charaka samhita* and *Madhavanidana* the causative factors of *Panduroga*, has explained in detail, while in *Sushruta Samhita*, *Ashtanga Samgraha* and

*Ashtanga Hridaya* etc. the causes of *Panduroga* have not been clearly described. However in these Texts, the causative factors provoking *Pitta Dosha* are described. *Pandu roga* is considered as *Pitta Dosha pradhana*. The provoking factors of *Pitta* can also be taken as a cause of *Pandu roga*. This is confirmed that *Pandu roga* is caused due to indulgence of food Containing more *Amla*, *Kshara*, *Lavana*, *Ushna* and *Ruksha*. If person may use very hot Substances in his diet daily, it may injure the gastric mucosa and by this may give rise to *Pandu roga* due to improper digestion. Intake of *dravays* like *Nishpava*, *Tila*, *Tilataila*, *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. *Lavana rasa* as a cause of *pandu* is mentioned by *Charaka samhita* and *Sushruta samhita*. Excessive use of wine and spicy materials excites *pitta dosha* and if this substance 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 will produce Anaemia either by disturbing Vit B activity.

#### ***Viharaja Nidana***

In mental activities, *Chinta*, *Shoka* all main causes of *Panduroga*. The result of *Mandagni* and deficient nutrition to *dhatu*s which is stated to be the causes of *Panduroga*. *Snehavibhrama*, *Snehatiyoga*, *Amatisarasamgraha* etc. has also been taken as the causes of this disease. *Acharya Sushruta* has mentioned *Vyayama* as one of the causative factors in the development of

*Pandu*. There is loss of energy from the body during severe exercise and if one doesn't take adequate amount of nutrition to compensate loss then naturally the requirements will be obtained from the tissue of the body itself and ultimately, there will be general degeneration leading to *Dhatukshaya* and ultimately *Ojakshaya* causes *Pandu*.

#### **Discussion on Iron Deficiency Anaemia**

Iron deficiency anaemia is the most common type of anaemia is caused when the dietary Intake or absorption of iron is insufficient. Iron which is present in the human body exists in Essential Iron and Nonessential Iron. Iron is lost from the body when cells are lost, especially epithelial cells from the GI tract. In women menstrual flow constitutes an important additional route of Iron loss. In normal situation these losses are balanced by equivalent amount of Iron absorbed from the diet. Iron balance is achieved by its absorption rather than its excretion. Iron is important for the formative of hemoglobin, myoglobin and other substances like cytochromes and other enzymes. Iron metabolism includes 3 stages viz. absorption, Transport and storage of Iron. Conditions that increase demand for iron, increase iron loss, or decrease iron intake, absorption or use can produce iron deficiency. Methodology is the systemic procedures to carrying out a research. By observing more than 60 patients it is finding that the *Pittaja* type of *panduroga* is more common and in these cases the deficiency of iron is the uniqueness.



## CONCLUSION

The *Pandu roga* is *Pitta pradhanavyadhi*, *Pitta* is responsible for the normal colour of the body but when it gets vitiated, the *Rakta* as it happens in *Pandu roga* and thus loss of complexion or *Panduta* occurs. This *Pandu roga* is also considered as *Santarpan janyavyadhi*, which broadly means anabolism, brings about an increase in *kapha* which in term may cause the disease by generating *aama* and *Mandagni*. Though *Pitta* is *pradhana dosha* in *Pandu roga*. It is obvious that Anaemia is most common among females due to menstruation, pregnancy, poor general health, improper and inadequate diet which lead to malnutrition leading to Anaemia. In the present study mostly Microcytic Anaemia was found, sizes of RBCs are smaller than the normal and in IDA is the type of Microcytic Anaemia. In Anaemia Iron deficiency is the most commonly found and the main cause of Iron deficiency is improper Iron absorption in the GIT. Ferrous iron can absorb better than Inorganic ferrous and ferric salts. Hemoglobin iron is absorbed intact as heme, even at neutral pH, and is not affected by dietary maintains the phosphate and phytates. A Study on *Nidana* of *Panduroga* w.s.r.to Iron deficiency anaemia diagnosed as *Pittaja pandu roga*, 18 patients belongs to *Kaphaja* and 14 patients were diagnosed as *Vataja* type of *pandu roga*. By comparing and correlating the *nidan* factors of each *pancha vidha pandu* with IDA, it is assessed that all most all factors in the *Pittaja* type of *pandu* and Iron deficiency anaemia were found to be same. After careful study of lab

investigations it is noticed that, the deficiency of Iron is commonly found in the *Pittaja pandu rogi's*. So the present study reveals that the Iron deficiency anaemia may correlate with the *Pittaja* type of *panduroga*.

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