



**“LITERATURE REVIEW OF IRON DEFICIENCY ANEMIA WITH SPECIAL REFERENCE TO PANDU VYADHI.”**

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**ABSTRACT**

Anemia can be defined as a reduction in the hemoglobin, hematocrit or red cell number. Anemia is a pathological condition characterized by a decrease in oxygen carrying capacity of the blood. The pathologically disease involve Agnimandya due to decrease in Abhyavaharana Sakthi Jaranasakthi and Kayagni, responsible for the Dhatwagni and Bhootagni, these all consequences results formation of immature Dhatu and malnutrition occurs due to the impaired Kayagni. Agnivikriti along with Varnahani, Prabhahani, Utsahahani and Krishata observe.

There is five types of Pandu vyadhi- Types: 1) Vataja Pandu vyadhi, 2) Pittaja Pandu vyadhi, 3) Kaphaja Pandu vyadhi, 4) Tridoshaja Pandu vyadhi & 5) Mrudbhakshanjanya Pandu vyadhi. To reach a definitive diagnosis of iron deficiency anemia, in addition to performing a full blood count (hemoglobin, hematocrit, red blood cell count), ferritin and serum iron levels should be Measured.

Pandu roga can be effectively compared with Anemia on the grounds of its similar signs and symptoms. Iron deficiency group showed the predominance of vatika pandu features.

**KEYWORDS :** Pandu, Anemia.

**INTRODUCTION:**

Anemia is one of the most important nutritional deficiencies affecting various social and socioeconomic strata. <sup>1</sup>Anemia can be defined as a reduction in the hemoglobin, hematocrit or red cell number. Anemia is a pathological condition characterized by a decrease in oxygen carrying capacity of the blood. <sup>2</sup>The features of iron deficiency anaemia are almost similar with that of Pandu Roga mentioned in Ayurvedic classics. <sup>3</sup> Iron deficiency anemia arises when the balance of iron intake, iron stores, and the body's loss of iron are insufficient to fully support production of erythrocytes. <sup>4</sup>It is characterized not only by low hemoglobin and hematocrit levels but also by a reduction or depletion of iron stores, by low serum iron levels and decreased transferrin saturation <sup>5</sup>

The Pandu disease affects children, pregnant and lactating women. *Pandu vyadhi* is considered as *pitta pradhan*. The vitiating factors of *pitta* can also be taken as a cause of *Pandu vyadhi* <sup>6</sup>Ayurveda described Pandu as Pitta Pradana Vyadhi associated with Rasa and Rakta Dhatu. Dhatu nourishment mainly affects in disease due to Pitta Prakopaka Ahara

**Material And Methods:**

**Iron deficiency anemia**

**Pathophysiology**

The pathologically disease involve Agnimandya due to decrease in Abhyavaharana Sakthi Jaranasakthi and Kayagni, responsible for the Dhatwagni and Bhootagni, these all consequences results formation of immature Dhatu and malnutrition occurs due to the impaired Kayagni. Agnivikriti along with Varnahani, Prabhahani, Utsahahani and Krishata observe. <sup>7</sup>

**Signs & Symptoms**

Symptoms- Lassitude, fatigue, palpitation, breathlessness on exertions, dimness of vision, insomnia, angina, parasthesia in finger and toes.

Signs- Pallor of skin, mucous membrane, palms of hand, conjunctiva, tachycardia, cardiac dilatation, systolic flow of murmur, edema. Neurological signs and symptoms: Tingling or numbness of the fingers, Tingling or numbness of the toes, general muscle weakness, difficulty walking properly

(staggering), irritability, confusion, forgetfulness, tender calves. <sup>8</sup>

**Causes**

**Causes<sup>9</sup>**

Iron-poor diet - Inappropriate dietary habits

Medication/food- Use of medication and foods that inhibit iron absorption

Overweight and obesity - Iron requirements are higher as a function of weight and iron-poor food

Malnutrition- Mucosal lesions of the duodenum prevent iron absorption

Iron deficiency associated with sporting activities - "Sports anemia"

Acute or chronic blood loss, injury, blood donation - Depletion caused by blood loss

Gastrointestinal tract disorders - Parasitosis, peptic disease, *H. pylori* infection, inflammatory bowel disease, coeliac disease, hemorrhoids, diverticulitis

Genitourinary losses -Paroxysmal nocturnal hemoglobinuria

Menarche and menstrual abnormalities -Metrorrhagia

Pregnancy, childbirth and use of an intrauterine device

Chronic and acute diseases

**Types**

- 1) Vataja Pandu vyadhi
- 2) Pittaja Pandu vyadhi
- 3) Kaphaja Pandu vyadhi
- 4) Tridoshaja Pandu vyadhi
- 5) Mrudbhakshanjanya Pandu vyadhi

**Pandu Vyadhi:**

1) Vataja Pandu: Symptoms of Vataja Pandu are dryness, Krishna - aruna colouration of twak, mutra, mala, netra etc. Angamarda, tremors, bhrama, loss of vitality, Bala kshaya, Aruna, Krishna colouration of the limbs, nakha, Sira, Akshi, pain at the Parswa and head, anaha, constipation, pricking pain etc.

2) Pittaja Pandu:- In Pittaja Pandu, the person has Greenish yellow discolouration of mutra, mala, netra, nakha, burning sensation of the body, trushna, jwara and deep yellow watery stool. Excessive perspiration, craves for

cold things, do not relish food and has a pungent taste in mouth, loose bowels, durbalata, ushna amla udagara, vidahata, durgandata, murcha.

- 3) Kaphaja Pandu: In Kaphaja Pandu, patient has watery discharge from Netra, Mukha and Nasa, Shotha, Murcha, Nirutasahi, Anggaurava, white discolouration of skin, urine, eyes and stool, stupor, sweet or salty taste in the mouth, Swara kshaya, klama, shwasa, Chardi, anorexia and letharginess.
- 4) Tridoshaja Pandu: -When all tridosha gets vitiated they cause tridoshja Pandu and show all symptoms of three doshas.
- 5) Mrityikabhakshana Pandu:- In our country Mrityikabhakshanjanya pandu is very common condition seen in children and women. When mud is eaten it does not get digested in amashaya and it blocks the rasavaha strotas. Due to this gradually rasa dhatu kshaya takes place and in turn due to this the subsequent dhatu are not properly nourished and there by Pandu roga is produced.

#### Diagnosis:

To reach a definitive diagnosis of iron deficiency anemia, in addition to performing a full blood count (hemoglobin, hematocrit, red blood cell count), ferritin and serum iron levels should be Measured. Plasma ferritin levels decrease when there is a deficiency of iron . On the other hand, increased ferritin levels may occur in the presence of infections, neoplasms in general, and in cases of leukemia, lymphoma, breast cancer, renal disease, rheumatoid arthritis, hemochromatosis or hemosiderosis, as well as following alcohol consumption.

#### Hb Normal Value:

*Hb Haemoglobin Male-13.5-17.5 g/dl  
Female- 12.0-14.5 g/dl*

#### Prevention:

Prevention of iron deficiency anemia should be based on four approaches:

1. Nutritional counseling aimed at improving the quality of the diet. Breastfeeding should be encouraged;
2. Iron supplementation therapy;
3. Fortification of food;
4. Infection control

Providing dietary counseling is fundamental and it is important to explain that the bioavailability of iron obtained from meat (red or white meat) is greater. In addition to meat, individuals should be encouraged to consume citric fruits, vegetables and legumes and be warned to avoid sodas, tea, coffee, excessive amounts of milk, and cereals that reduce iron absorption.<sup>10</sup>

#### Ayurveda drugs & their properties used in anemia

Most of the drugs possess Katu and Tikta Rasa- increases Raktha and absorption of iron. Shunti, Marica, Pippali and Haridra are Katu rasa pradhana dravyas which promote Agni due to their Deepana and Pachana properties, manage Aruchi and improve iron bioavailability.

Laghu, Ruksha, Snigdha gunas of drugs improves- Dhatu, Shaithilya and Gourava. Ushna Virya properties of drug help to improve Agni.

Trikatu and Triphala also used in disease acts as  $\alpha$ - Deecana while Pramathya properties of Marica help in clearing the Srothoavarodha. Other drugs such as Vidanga, Haridra, Patha and Mustha also possess relief in Panduroga. Loha bhasma directly increase the Raktha dhatu and thus offer Hematinic effect. Rasayana such as Amalaki prevent Ojokshaya. These all drugs also possess Tridoshahara and Kapha Vatashamaka properties

#### DISCUSSION:

On observing the various groups of anemia in view of the doshika predominance, it was found that the paittika pandu features were observed predominantly in haemolytic anemia group while vatika pandu features were found in the deficiency anemia group, i.e., the iron deficiency anemia and the megaloblastic anemia predominantly. The anemia due to marrow failure group again showed the predominance of paittika pandu features.

Pandu roga features recorded, it was found that the IDA patients had the maximum similar features of vatika pandu. Mrityikabhakshana (eating of mud/ articles contaminated with mud) was found principally in the IDA group. Blood with stools/ blood streaked stools was also found in the IDA group. Iron deficiency group showed the predominance of vatika pandu features and megaloblastic anemia demonstrated more kaphaja pandu lakshanas than any other group. the line of treatment for paittika pandu may be applied in haemolytic anemia and that of vatika pandu to the deficiency anemia.<sup>11</sup>

#### CONCLUSION:

1. Iron deficiency group showed the predominance of vatika pandu features.
2. It is obvious that Anaemia is most common among females due to menstruation, poor general health, improper and inadequate diet which leads to malnutrition leading to Anaemia.
3. Main cause of Iron deficiency is improper iron absorption in the GIT.

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