



EVIDENCE BASED MANAGEMENT OF PANDU ROGA THROUGH AYURVEDA W.S.R TO IDA

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ABSTRACT

*Pandu Rog*a can be termed as anemia on basis of etiology, clinical presentation, and complications. *Ayurvedic* texts describe *Pandu Rog*a in detail including its management. Amongst the broad spectrum of anemia, IDA (iron deficiency anemia) is the most common in children and adolescents. It arises due to reduced iron intake. As per *Ayurvedic* classics, *Pandu* arises due to reduction of *Rasa Dhatu* which in turn results in poor production of *Rakta Dhatu* (blood). This article aims at reviewing critically important aspects related to *Pandu Rog*a including its *Nidanpanchaka* (etiology, prodromal features, clinical features, pathogenesis, and complications) types, important formulations, *Saddhya -Asadhya*ta (prognosis) and *Pathya-Apathya* (congenial and non-congenial diet for a disease). The article will also highlight the various clinical trials from reputed medical publications evaluating the efficacy of herbal and herbo-mineral preparations for iron deficiency anemia. The articles were searched from various indexing sites including PubMed, Scopus, google scholar and then cross-referencing of the articles was done. The key words used were '*Pandu Rog*a' 'Iron Deficiency Anemia', '*Ayurveda*' and name of drugs effective in IDA. Last 15 years articles published in English language were referred to write this review article. It was concluded that *Ayurveda* offers effective and safe treatment for IDA, without any adverse effects.

KEYWORDS : *Pandu Rog*a, Iron deficiency anemia, *Ayurveda*, *Raktadathu*, *Nidanpanchaka* etc.

INTRODUCTION:-

The major cause of anemia all over India is nutritional iron deficiency. The nearby correlation of IDA can be linked with *Pandu Rog*a mentioned in *Ayurveda*. It is most common prevalent disease in the society.¹ The term '*Pandu Rog*a' is given due to predominance of *Pandubhava* (paleness), which can be seen all over the body. In this disease there is deterioration of, *Bala* (strength), *Varna* (complexion), *Sneha*, *Meda*, *Oja* and blood. The patient becomes *Neesar* (loss of natural integrity, tone, and strength) and *Shithilendriya*. In this disease *Pitta Pradhana Vatadi Dosha* and *Rakta Dhatu* gets vitiated. In *Ayurveda* *Pandu Rog*a is taken under *Rasa Pradoshaja Vikara*.²

In India, it is more prevalent among those groups which are nutritionally vulnerable such as infants, children and pregnant women because of low dietary intake, poor iron availability, chronic blood loss is also a reason caused due to worm infestation because of poor hygiene and contaminated water.³ In *Ayurvedic* classics, the description of *Pandu* is available in three forms i.e., *Pandu* as a disease, *Pandu* as a complication, *Pandu* as a sign of certain diseases.⁴

According to the report of WHO, ID is much frequent among low socio-economic classes. *Pandu Rog*a is uniformly prevalent in both vegetarians and non-vegetarian groups. The disease is more commonly found in the children with *Pitta* dominant *Prakriti*. As it is *Pitta* dominant *Tridoshaja Vikara* (disease occurs due to vitiation of all three *Doshas*)⁵. Worldwide, at any time point, more individuals have iron-deficiency anemia than any other health problem. Anemia is the most common morbidity among micronutrients and affects health, education, economy, and productivity of the entire nation.⁶

IDA is a prevalent public health problem especially in developing countries. No clear data is available that how many individuals are affected by ID worldwide, but it is estimated that ID is present in most of the pre-school children and pregnant women in developing countries and in at least 30–40% in developed countries when anemia is used as an indirect indicator of ID.⁷

According to national family health survey (NFHS)-3 data, the prevalence of anemia is as follows:-

- Urban children is- 71%,
- Rural area- 84%
- Overall - 79%⁸

In Uttarakhand, the prevalence of IDA among children between the age of 6 and 59 months is that more than half (55%) are anemic in which 26% are mildly anemic, 27% are moderately anemic, and 2%

suffer from severe anemia. Girls are more prone to have anemia than boys. Approximately half of children (49%) are anemic in Uttarakhand. The prevalence of anemia among children has decreased from 61 percent in NFHS-3 to 55 percent in NFHS-4.⁹

AIM AND OBJECTIVES:-

- To study the etio-pathogenesis of *Pandu Rog*a from *Ayurvedic* perspective.
- To highlight the different successful interventions on *Pandu Rog*a from *Ayurvedic* perspective.

MATERIAL AND METHOD:-

Ayurvedic Samhitas, clinical books related to pediatrics and articles from different reputed journals have referred to collect material for this review.

Nidanapanchaka Of *Pandu Rog* :-

Nidana

• Etiology¹⁰

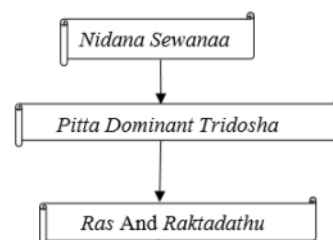
The *Nidana* (causative factors) of *Pandu Rog*a are widely divided in 3 types:-

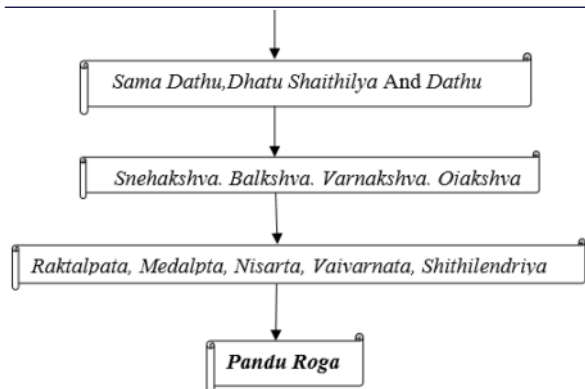
1) **Aharaja Nidana (dietary causes)**- By excessive intake of *Kshara*, *Amla*, *Lavana*, *Ushna*, *Viruddha Ahara*, *Asatmya Bhojana*, *Nispava*, *Masha*, *Pinyaka*, *Tila Taila*.

2) **Viharaja Nidana (Habitual Cause)**- *Divashayana* (sleeping at daytime), Exercise and sexual intercourse when there is indigestion, improper administration of *Panchakarma*. Faulty management of seasonal regime (*Ritucharya*), holding *Adharaniya Vegas*.

3) **Manasika Nidana (Mental Cause)**- Affliction of mind with *Kama* (sexual desire), *Chinta* (anxiety), *Bhaya* (fear), *Krodha* (anger) and *Shoka* (grief).

Samprapti:-¹¹



**Samprapti Ghataka:-**

- Dosa-Pitta Pradhana Tridosha (mainly Sadhaka Pitta)
- Dusya-all Dhatus including Oja
- Agni-Jatharagni, Dhatwagni
- Srotas-Rasavaha, Raktavaha
- Srotodushti-Sanga, Vimargagamana
- Udbhavasthana-Amashaya, Hridaya
- Sanchara -Sarva Sharir
- Vyaktasthana-TwakVyadhi
- Swabhava-Cirkari
- Roga Marga-Madhyama Roga

Purvarupa:-¹²

- Prodromal Features Of Pandu Roga :-
 - Hridayaspandana (palpitation of heart)
 - Rukshata (roughness)
 - Swedabhava (absence of sweat)
 - Shrama (exhaustion)

Rupa (Samanya Lakshana):-¹³

- General clinical presentation of Pandu Roga: -
 - Karnakshweda (tinnitus)
 - Hatanal (loss of digestion)
 - Durbalata (debility, malaise)
 - Annadweshha (aversion towards food)
 - Shram (exhaustion)
 - Bhram (giddiness)
 - Gatrashula (body ache)
 - Jwar (fever), Shwasa (dyspnoea), Gaurava (heaviness), Aruchi (anorexia)
 - Patient feels like his limbs are getting kneaded, pressed, and churned.
 - Shunakshikuta (swelling over orbit)
 - Harita (complexion become greenish)
 - Shirnaloma (hair fall)
 - Hataprabha (loss of lusture)
 - Irritability, Shishirdweshi (dislikes cold things)
 - Nidralu (oversleep)
 - Spitting, diminished speech
 - Cramps in calf muscles
 - Patient suffers from pain in waist, thighs, and legs.
 - Patient feels exhausted while climbing stairs.

Types

According to Acharya Charaka Pandu is classified into 5 types.¹⁴

- 1) Vataja Pandu
- 2) Pittaja Pandu
- 3) Kaphaja Pandu
- 4) Sannipataja Pandu
- 5) Mrittika Bhakshanajanya Pandu

According to Acharya Susruta Pandu is classified into 4 types.¹⁵

- 1) Vataja Pandu
- 2) Pittaja Pandu
- 3) Kaphaja Pandu
- 4) Sannipataja Pandu

Treatment For Sadhya Pandu Rogi¹⁶

Vaman (emetic therapy) and Virechan (purgation therapy) with Teekshna drugs after Snehan therapy to restore the body. Tikshna Shodhana can be given to the patients of Pandu Roga with emetic and purgative drugs to eliminate vitiated Doshas. After that patient should

be given Pathya Ahar (food) comprising old Shali (type of rice), Yava, Godhuma assorted with the Yusha of Mudga, Masura etc. Drug or intervention should dominate Sneha Dravya for Vataja type of Pandu. In Paittika Pandu, bitter and cooling drugs should be intervened. The therapy should be dominated by Katu, Ruksha, Ushna drugs Kaphaja Pandu for Kaphaja Pandu, and for Sannipatika type of Pandu, combination of different constituents should be combined of all properties.

Some Important Formulations¹⁷

- Dadima Ghrita
- Katukadya Ghrita
- Pathya Ghrita
- Danti Ghrita
- Draksha Ghrita
- Haridrdi Ghrita
- Vishaladi Fant
- Gomutra Hareetki
- Navayas Churna
- Mandoor Vatak
- Yograj
- Sheelajatuvatak
- Punarnava Mandoor
- Daryyadi Leha
- Mandoor Vatak

Sadhyasadhyata¹⁸

The signs, symptoms and other conditions indicate incurability of Pandu Vyadhi are as follows –

- Chirotapanna
- Kharibhuto
- Kalaprakarshashuno
- Pitani Pashyati
- Badhda Alpa Vita
- Sakapha Harita Atisara
- Deena
- Shwetatidigdhanga
- Asrikakshaya
- Loss of consciousness
- Diarrhea
- Fever.

Upashaya And Anupashaya (Pathya, Apathya)¹⁹**(A)Pathya**

- Arishta prepared from jaggery, Madhu and Sharkara.
- Asava prepared from Mutra and Kshara.
- Jangala Mansa fried with fat and processed with Amalaki or cooked with

(B)Apathya –

Different measures that can aggravate the disease should be avoided. All those causes which are responsible for the development of Pandu Roga have been mentioned earlier.

Evidence Based Management Of Anemia (Pandur Roga) Through Ayurveda

1. A study had been conducted which include 123 children of IDA for a period of 10 weeks. Clinical parameters were recorded before, during and after intervention. This study showed that the drug under trial Trikatrayadi Lauha suspension was found significant to improve IDA. The medicine was effective to increase the hemoglobin level 1.94 g/dL (8.52 -10.46 g/dL, P < 0.001) in 5 weeks and 3.33g/dL (8.52 - 11.85g/dL, P < 0.001) in 10 weeks. No adverse effect of the trial drug was observed during the study.²⁰

2. A clinical trial was conducted in children of IDA which was a single blind study. The trial drug was Panduhara Yoga which was administered in the dose of 110mg/kg BD with honey (Anupana) after meal for 6 weeks. In three weeks of treatment Hb level was increases 1.19gm/dl and 2.64gm/dl in six weeks. After the 6 weeks treatments majority of the patient have shown very good improvement. The drug is found significantly effective in the management of iron deficiency anemia in children. No adverse effect has been found during the treatment.²¹

3. A clinical trial was conducted in 50 patients of geriatric anemia (clinically diagnosed). All patients were given Punarnava Mandura. Dose-2 tablets (250 mg each) BD with Takra (butter milk) as Anupana for a period of 3 months. Among total 50 patients. Significant results

were found.²²

4. A study was conducted on 24 pregnant women with clinical presentation of *Garbhini Pandu* were divided into two groups randomly. Group A was administration with *Punarnava Mandura*, 2 tablets (each of 500 mg) TDS with buttermilk (100 ml) and Group B was administration with *Dhatri Lauha*, 2 tablets (each of 500 mg) TDS with lukewarm water for 3 months days. Results were statistically analyzed. Group A had shown better improvement when compared with Group B. There were no side effects found during the treatment period.²³

5. A clinical study was conducted by simple randomized sampling; 58 cases of IDA were selected and were administered with *Dhatri Lauha* 500 mg BD after meal with water for 45 days. Results were analyzed statistically after completion of treatment. Statistically significant result was found.²⁴

6. A study was conducted on 40 patients which were randomly divided into two groups. Group A was administered with *Hansa Mandura* (2BD) with *Takra as Anupana* and Group B IS administered with 40 ml of *Phalatrikadi Kwatha* with honey twice a day on empty Stomach. The result findings proved that; Better results were found in group A as compare to group B.²⁵

7. A study was conducted on 35 children of IDA for 6 weeks period. They have given *Gud Haritki* and *Punarnava Mandoor*. Clinical feature and hematological parameters were documented before, during and after treatment. Result was found significant and more significant when both drugs are given together.²⁶

DISCUSSION:-

From above description, *Pandu Roga* is characterized by predominantly presence of paleness in different body parts. Most of its *Nidanans* (etiological factors) are *Pitta* and *Rakta prakopaka*, causes *Mandagni* and vitiation of *Rasavaha Srot* which leads to less production of *Posaka* from the *Rasadhatu* and depletion of *Raktadhatu* which ultimately results in *Raktalpata*. Another pathogenesis is that *Prakupita Pitta* of *Hridaya* expelled through *Dasa Dhamani* by powerful *Vata* which further vitiate *Vata*, *Rakta*, *Kapha*, *Twak* and *Mamsa* and causes *Pandu Varnata* and ultimately leads to *Pandu Roga*. *Rasavaha* and *Raktavaha Srotas* are main manifestation of *Pandu Roga*. In acute stage all types of *Pandu* are curable but in chronic stage they become incurable. Various iron and non-iron containing preparations are mentioned in *Ayurvedic* classics for the management of IDA. In *Ayurveda* different have mentioned. *Upashaya* and *Anupashaya* should be strictly followed in early stage.

This article also analyses seven clinical interventions to appraise the efficacy of *Ayurvedic* formulations in the management of *Pandu Roga*, which were conducted among various age groups with different *Ayurvedic* preparations and doses. Both Herbal and Herbo-Mineral *Ayurvedic* formulations were evaluated in the studies. Significant improvement in clinical parameters of IDA was reported in the studies parameters. None of the study had reported serious adverse effect of *Ayurvedic* preparations.

CONCLUSION

It is concluded that *Ayurvedic* formulations such as *Nawayas loha*, *Punarnava mandur*, *Dhatri Lauha* etc. are effective and safe for the management of IDA. They have almost nil adverse effects as compared to conventional treatment drugs for anemia. Thus, it is recommended that considering the efficacy and cost effectiveness of *Ayurvedic* formulations, they should be included in National health programs pertaining to prophylaxis and treatment of IDA in children and adolescents.

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