



A CONCEPTUAL STUDY OF PANDU ROGA AND ROLE OF DARVYADI LAUHA AND VASADI KASHAYA IN ITS MANAGEMENT- A REVIEW ARTICLE

¹*Dr. Monika Gupta and ²Dr. Sukhpreet Kaur

¹Associate Professor, Jammu Institute of Ayurveda and Research.

²P. G. Scholar, Jammu Institute of Ayurveda and Research.

*Corresponding Author: Dr. Monika Gupta

Associate Professor, Jammu Institute of Ayurveda and Research.

Article Received on 28/09/2017

Article Revised on 19/10/2017

Article Accepted on 09/11/2017

ABSTRACT

Ayurveda is the science of life which focuses on maintenance of positive health in healthy and eradication of ailments in diseased through its holistic approach, lifestyle practices, dietary habits and safer medications. Malnutrition either due to inadequate dietary intake or lack of balanced diet and population explosion in today's world has lead to the development of various diseases and *Pandu Roga* is one such disease. **Pandu is a Varnopalakshita Vyadhi** wherein paleness is pathognomonic. *Pandu Varna* is a mixture of *Shweta & Peeta Varnas* which resembles the colour of pollen grains of *Ketaki* flowers. Anaemia is defined as a state in which blood haemoglobin level is below the normal range for patient's age and sex. **Samshodhana** and **Samshamana Chikitsa** in the form of internal and external medicine is the line of management of *Pandu Roga*. **Samshodhana** is done by **Vamana** and **Virechana** using *Snigdha* and *Teekshana* drugs. **Samshamana Chikitsa** includes drugs like *Navayasa Lauha*, *Dhatri Lauha*, *Amalaki Churna*, *Phaltrikadi Kwatha* etc.

KEYWORDS: *Pandu Roga*, *Darvyadi Lauha*, *Vasadi Kashaya*, Anemia.

INTRODUCTION

Pandu Roga is mainly concerned with the vitiation of **Pitta Dosha** which in turn vitiates *Rakta* and other *Dhatus*. Since *Pandu Roga* is a *Pitta Pradhana Vyadhi* and *Pitta* is responsible for normal colour of the body, so, if it gets vitiated, impairment of colour and complexion (*Panduta*) occurs. **Samanya Lakshanas** of *Pandu Roga* as per *Ayurvedic* classics are *Raktalpata*, *Medalpata*, *Nissarta*, *Vaivarnya*, *Ojogunakshaya*, *Daurbalya*, *Aruchi*, *Bhrama*, *Shithilaendriya* etc. *Pandu Roga* as mentioned in *Ayurvedic* texts has very close resemblance with the description of anaemia available in modern texts in terms of *Nidana*, *Samprapti*, *Lakshanas* and *Chikitsa*.

The commonest type of anaemia is **Iron Deficiency Anaemia** which is most prevalent nutritional deficiency disease in both the developed and developing countries with its prevalence rate higher in children and women of child bearing age. Globally, 30% of the total world population are anaemic and half of these have Iron Deficiency Anaemia. According to **WHO**, 50% of children and women and 25% of men in developing countries like India are suffering from Iron Deficiency Anaemia.

REVIEW OF LITERATURE

Definition of Pandu: The different definitions of *Pandu Roga* as stated by various authors are as follows:

- The disease in which a deep yellow colour is imparted to the patient is known as *Pandu Roga*.
- *Pandu Roga* is a disease which is characterized by *Pandu varna*.
- Disease in which *Pandubhava* is more intermed is *Pandu Roga*.
- The disease is named *Pandu Roga* wherein *Pandu*, *Harita* and *Haridra varnas* appear in the skin.

Definition of Anaemia

Anaemia' is derived from a greek word 'anaimia', meaning lack of blood. Anaemia refers to a state in which the level of haemoglobin in the blood is below the normal range appropriate for the age and sex. In other words, anaemia is defined as reduction in the concentration of circulating haemoglobin or oxygen carrying capacity of blood below the level that is expected for healthy persons of same age and sex in the same environment. According to the World Health Organization (WHO), anaemia is defined as a haemoglobin level of less than 13 g/dl in men and less than 12 g/dl in women.

Nidana (Etiology)

The etiological factors explained for all types of *Pandu Roga* can be categorized as follows: *Ksharatishevana, Amlatishevana, Lavanatishevana, Atyushnatishevana, Asatmya bhojana, Viruddhahara, Katuatishevana, Kashayatishevana, Tikshanatishevana, Rukshatishevana, Vidagdhanana, Nispava, Masa, Pinyaka Til Taila Atisevana, Mrida bhakshana, Madhya atisevana, Ativyayama, Ativyavaya, Atinidra, Vegavrodha, Diwaswapna, Ritu vaishamy, Ratrijagrana, Krodha, Chinta, Bhaya, Shoka, Kama.*

CLASSIFICATION**A) Aetiological classification**

Anaemias due to blood loss:

- Trauma
- Postpartum haemorrhage
- Hookworm infestation
- Bleeding peptic ulcer
- Hemorrhoids
- Excessive menstrual loss.

Anaemias due to impaired red cell production

Deficiency:

- Iron Deficiency Anaemia.
- Megaloblastic Anaemia due to deficiency of folate or vitamin B₁₂.
- Anaemia of chronic diseases like chronic liver disease, chronic renal disease.
- Sideroblastic Anaemia.
- Aplastic Anaemia.
- Anaemia in endocrine disorders like hypothyroidism, hypoadrenalism, hypopituitarism, reduced erythropoietin due to renal failure.
- Myelophthisic Anaemia (Anaemia due to replacement of marrow by metastatic carcinoma, leukaemia, lymphoma, infections, storage disorders etc.).
- Congenital dyserythropoietic Anaemia.

Anaemias due to excessive red cell destruction (Haemolytic Anaemia)

Abnormality intrinsic to red cells:

- a) Defects in red cell membrane:
 - Hereditary spherocytosis
 - Hereditary elliptocytosis
 - b) Defect in haemoglobin:
 - Thalasseмии
 - Sickle cell disease
 - c) Defect in enzymes:
 - Glucose 6-phosphate dehydrogenase deficiency
 - Pyruvate kinase deficiency
- Abnormality extrinsic to red cells:
- a) Immune haemolytic Anaemia:
 - Autoimmune
 - Drug-induced
 - b) Mechanical haemolytic Anaemia
 - Cardiac
 - Microangiopathic

- Direct action of physical, chemical or infectious agents
- Hypersplenism

B) Morphological Classification

- Macrocytic Anaemia
- Microcytic Anaemia
- Normocytic Anaemia

Poorvaroopa of Pandu Roga as explained by different Acharyas are summarised below

Hridaspandana, Rukshata, Swedabhava, Shrama, Twak Sph otana, Sthivana, Gatradasa, Mridbhakshan- aeccha, Akshikoota shotha, Avipaka, Varchapitata, Mutrapitata, Aruchi Alpavahni, Panduta.

Samanya Lakshana of Pandu Roga

Karnakshweda, Hatanala, Daurbalya, Sadana, Bhrama Annadvesha Shrama, Gatrashoola, Jwara, Shwasa, Gaurava, Aruchi, Akshikoota shotha, Sthivana, Alpavaka, Arohanayasa, Dhatushathilya, Shithilaendriya, Hataprabha Kopana, Shishiradvesha, Nidralu, Katiruka, Padruka, Pindikodweshtana, Ojogunakshaya, Medalpata, Raktalpata, Nissarta, Sharira Vaivarnya.

Clinical features of Anaemia**Symptoms**

- Weakness, Fatigue, Dyspnoea, Palpitations.
- Dizziness, Headache, Tinnitus, Vertigo
- Anorexia, Indigestion, Nausea, Bowel disturbances.
- Irritability, Sleep disturbances, Lack of concentration
- Paraesthesia in fingers and toes

Signs

- Pallor of skin, palms, oral mucous membrane, nail beds and palpebral conjunctiva.
- Oedema
- Signs of hyperdynamic circulation like tachycardia, ejection systolic murmur, best heard over the pulmonary area, cardiac dilatation and cardiac failure.

SAMPRAPTI

Samprapti of *Pandu Roga* is as follows:

The pathogenesis of *Pandu Roga* is mainly concerned with vitiation of *Pitta Dosha* which in turn vitiates *Rakta* and other *Dhatu*s leading to *Panduta*. *Pitta Dosha* is the Pradhana Dosha involved in *Pandu Roga* but all its five fold functions are affected. Since the main seat of disorganization is *Rakta*, the *Ranjana* function of *Pitta* is to bear the brunt.

Nidana Sevana causes *Tridosha Prakopa* especially *Pitta Dosha*. Aggravation of *Pitta* located in *Hridaya* takes place, which then forcefully propelled by *Vayu* enters *Dasha Dhamnis* and circulates in the entire body. Being located between *Twaka* and *Mamsa*, this aggravated *Pitta* vitiates *Kapha, Vayu, Asrik, Twacha* and *Mamsa*,

as a result of which different types of discolorations like *Pandu*, *Haridra* and *Harita* appear in the skin. This is known as *Pandu Roga*. Thus, vitiated *Pitta Dosha* leads to *Dhatu-Shaithilya*, *Dhatu-Gaurava*, as a result *Balakhshaya*, *Ojokshaya* and *Varnanasha* occur.

PATHOGENESIS CHIKITSA

General principles of management of *Pandu Roga* are:

- *Samshodhana*
- *Samshamana*

In *Pandu Roga*, *Samshodhana* is done by *Vamana* and *Virechana* using *Snigdha* and *Teekshana* drugs.

Further *Acharya Charaka* has explained *Hetu Viparita Chikitsa*, i.e. for *Vattika* type of *Pandu*, therapy should be dominated by *Snigdha Dravyas*. In *Paittika Pandu Roga*, *Tikta* and *Sheeta Dravyas* while in *Kaphaja Pandu Roga*, *Katu*, *Tikta* and *Ushna* drugs should be used and all the above types of *Dravyas* can be used in *Sannipataja Pandu Roga*.

Shodhana Chikitsa of a disease is preceded by *Snehana* and *Mridu Swedana*.

Vamana

Vamana should be done in *Kaphaja Pandu Roga* with *Katu*, *Tikta* and *Ushna Dravyas*. In *Mridabhakshanajanya Pandu*, *vamana* should be done with *Teekshana* drugs to remove the ingested *Mrittika*.

According to *Acharya Charaka*, *Madanaphala* is *Sarvasreshtha Vamaka Dravya*. *Dhamargava* is a good *Vamaka Dravya* for *Pandu Rogi*. *Acharya Dalhana* says that in *Pandu Roga*, *Vamana karma* should be done according to *Kala*, *Ritu*, *Dosha* and *Prakriti*.

Virechana

After proper *Snehana*, patient should be given *Virechana* with:

- *Gomutra* mixed with *Godugdha*
- *Godugdha* alone
- *Danti Kwatha* sprinkled with *Kashmarya* powder.

In *Paittika Pandu Roga*, *Trivrit* powder mixed with *Sharkara* and in *Kaphaja Pandu*, *Haritaki* impregnated with *Gomutra* should be given for *Virechana*. According to *Bhaishajya Ratnavalli*, *Haritaki* mixed with honey, *Ghritha* cooked with *Rajni* or *Triphala Kalka* or *Trivrit* can be given for purgation.

Samshamana

Shamana Chikitsa includes various types of drugs and specific lifestyles which can be used according to *Dosha*, *Dushya*, *Nidanadi* involved in the manifestation of the disease. A lot of single and compound drugs like herbal, mineral and herbo-mineral preparations are mentioned in *Ayurvedic* classics for *Pandu Roga*.

- **Single Drugs:** *Amalaki*, *Haritaki*, *Bibhitaka*, *Chitraka*, *Vasa*, *Vidanga*, *Katuki*, *Lauha bhasma*,

Mandura bhasma, *Nayagrodhadi varga*, *Salsaradi varga* drugs.

- **Rasaushadi:** *Pandusudana Rasa*, *Anandodaya Rasa*, *Pranvallabha Rasa*, *Pandupanchanana Rasa*, *Chandrasuryatmaka Rasa*.
- **Lauha/Mandura:** *Navayasa Lauha*, *Darvyadi Lauha*, *Nisha Lauha*, *Dhatri Lauha*, *Vidangadi Lauha*, *Ashtadashanga Lauha*, *Punarnavadi Mandura*, *Vajravataka Mandura*, *Tryushanadi Mandura*
- **Vati/Vataka:** *Mandura Vataka*, *Arogyavardhini Vati*, *Shilajatu Vataka*.
- **Churna:** *Amalaki Churna*, *Navayasa Churna*, *Vishaladi Churna*, *Triphala Churna*.
- **Kwatha:** *Phalatrikadi Kwatha*, *Punarnavashtaka Kwatha*, *Vasadi Kashaya*, *Triphala Kwatha*
- **Asava/Arishta:** *Dhatryarishta*, *Lauhasava*, *Vidangasava*, *Gaudarishta*, *Drakshasava*, *Kumaryasava*.
- **Avaleha:** *Dhatryavleha*, *Darvyadi Leha*, *Drakshavleha*, *Vidangady-avleha*, *Amlakyavleha*
- **Ghritha:** *Dadimadi Ghritha*, *Danti Ghritha*, *Rohitaka Ghritha*, *Pathya Ghritha*, *Draksha Ghritha*, *Vyoshadya Ghritha*, *Haridradi Ghritha*.
- **Rasayana:** *Yograja Rasayana*, *Triphala Rasayana*, *Amalaki Rasayana*, *Lauha Rasayana*, *Gomutra Haritaki*, *Guda Haritaki*.

MANAGEMENT OF IRON DEFICIENCY ANAEMIA

The management of Iron Deficiency Anaemia consists of two essential principles:

- Treatment of the underlying cause
- Correction of Iron deficiency
- Once the diagnosis of Iron Deficiency Anaemia and its cause is made, and a therapeutic approach is charted, there are three major approaches:

Oral Iron Therapy

In the patient with established Iron Deficiency Anaemia who is asymptomatic, oral iron supplementations are usually adequate. For iron replacement therapy, upto 300mg of elemental iron per day is given, usually as three or four iron tablets (each containing 50 to 65 mg elemental iron) given over the course of the day. **Ferrous sulphate** 200 mg 8-hourly (120 mg of elemental iron per day) is more than adequate and should be used for 3-6 months to replenish iron stores. Occasionally, patient is intolerant to ferrous sulphate, with dyspepsia and altered bowel habit. In this case, a reduction in dose to 12 hourly or **ferrous gluconate** (70 mg of elemental iron per day) should be given.

Parenteral iron therapy

The parenteral preparations of iron include:

- Iron dextran (50 mg elemental iron per ml); IM or IV
- Iron sorbitol citrate (50 mg/1.5 ml); IM

- Iron sucrose (100 mg in 5 ml; IV, slow injection over 5 mins or as infusion in 100 ml saline over 30 mins.
- Sodium ferric gluconate (12.5 mg in 10 ml); IV, slow injection over 10 mins or as infusion in 100 ml saline over 1 hour.

Parenteral iron is usually given intramuscularly into the buttocks by Z-track technique to avoid staining of skin. Iron dextran is the oldest preparation in use but is associated with life-threatening anaphylactic reaction in 0.7% cases when it is administered intravenously.

Red Cell Transfusion

Transfusion therapy is reserved for those individuals who have symptoms of anaemia, cardiovascular instability and continued and excessive blood loss from whatever source, and those who require immediate intervention.

Packed red blood cells, the most commonly transfused blood component, can restore the blood's oxygen-carrying capacity. Red blood cell transfusions are given to raise the haematocrit level in patients with anaemia or to replace losses after acute bleeding episodes. Not only do transfusions correct the anaemia accurately, but the transfused red cells provide a source of iron for reutilization.

DISCUSSION

Probable Mode of Action of Drugs

Action of a medicine mainly depends upon its subtle constituents like *Rasa*, *Guna*, *Virya*, *Vipaka*, *Prabhava*. When the *Rasadis* are of equal strength, the *Vipaka* dominates over *Rasa*, both *Rasa* and *Vipaka* are superceded by *Veerya* while *Prabhava* overcomes all of them.

Darvyadi Lauha

Ingredients of *Darvyadi Lauha* are Darvi (*Berberis aristata*), Amalaki (*Embllica officinalis*), Haritaki (*Terminalia chebula*), Bibhitaka (*Terminalia bellirica*), Pippali (*Piper longum*), Shunthi (*Zingiber officinale*), Maricha (*Piper nigrum*), Vidanga (*Embelia ribes*) and Lauha Bhasma. *Daruharidra* and *Lauha bhasma* are the main ingredients in this *Yoga* and hence the name *Darvyadi Lauha*.

Most of the ingredients of *Darvyadi Lauha* possess qualities like *Tridosahara*, *Deepana*, *Pachana*, *Hridya*, *Yakriduttejaka*, *Krimighna*, *Shwasahara*, *Raktavardhaka* and *Rasayana*.

As seen in the *Samprapti* of *Pandu Roga*, aggravated *Pitta Dosh* afflicts *Jatharagni*, leading to *Rasa Dhatu Dushti*. *Jatharagni Mandya* produces *Sama Ahara Rasa* and when it sets into circulation, already debilitated *Dhatwagni* (esp. *Raktadhatvagni*) disturbs *Dhatu Poshana Parampa* causes *Raktalpatha* leading to *Pandu Roga*. The *Deepana*, *Pachana* property of *Darvyadi Lauha* corrects *Agnimandya* and alleviates *Ama*. Thus, it

can break the *Dosha-Dushya Sammurchhna* of the disease.

Darvyadi Lauha contains *Amalaki*- a rich source of Vitamin c which helps in absorption of iron. It may increase the bioavailability of *Lauha Bhasma* and may also decrease the common hazards of oral iron therapy. Moreover, *Amalaki* is *Amla Rasa Pradhana Dravya* which may increase *Rakta dhatu* because in *Raktalpatha*, *Amla Preeti* is seen.

Since, *Pandu* is a *Ruksha Guna Bhuyishtha Vyadhi*, *Shunthi* and *Pippali* (*Snigdha Guna Yukta*) present in *Darvyadi Lauha* may have a significant action on the disease. *Daruharidra* is *Pittahara* and *Arochakaghna* due to its *Tikta Rasa*. *Dravyas* like *Amalaki*, *Haritaki* and *Bibhitaka* have properties like *Tridoshashamaka*, *Dhatuwardhaka* and *Rasayana* which may improve *Dhatu-shaithilya*, *Daurbalya* and *Ojogunakshaya*. *Pippali* and *Vidanga* are *Krimighna*, thus they may be useful in *Mridhakshanajanya Pandu*. Also, *Pippali* in itself is *Raktavardhaka*. *Maricha* is *Srotoshodhaka*, so it may check *Rasavaha Srotodushti* and help in the proper formation of *Rakta Dhatu*. Most of the drugs are *Shwasahara* and drugs like *Haritaki*, *Shunthi* are *hridya* also.

Lauha Bhasma due to its *Sheeta Virya* is *Pittashamaka*. It is also *Balya*, *Vrishya*, *Tridoshahara* and *Rasayana*. Moreover, *Bhasmas* due to their *Sukshma Guna* increase the absorption and bioavailability of the drug.

Therefore, it is clear that *Darvyadi Lauha* is likely to check the aetiopathogenesis of the disease and arrest its progress.

VASADI KASHAYA

Ingredients of *Vasadi Kashaya* are *Vasa*, *Amrita*, *Nimba*, *Kiratiktika* and *Katuka*. *Vasadi Kashaya* possesses qualities like *Kaphapittashamaka*, *Balya*, *Deepana*, *Pachana*, *Krimiaghna*, *Jwaraghna*, *Shwasahara* and *Hridya*. The *Deepana*, *Pachana Guna* is likely to check *Agnimandya* and alleviate *Ama*. Thus, it may break *Dosha-Dushya Sammurchhna* of the disease. All the ingredients are *Pittashamaka* and of *Tikta rasa* which is *Arochakaghna*.

Thus, *Vasadi Kashaya* with all these properties is likely to check aetiopathogenesis of the disease and arrest its progress.

CONCLUSION

- *Pandu* is a *Varnopalakshita Vyadhi*.
- *Pandu Roga* is a *Pitta Pradhana Vyadhi* and *Pitta* is responsible for normal colour of the body.
- *Pandu* in modern parlance has similarity with Anaemia.
- The commonest type of anaemia is Iron Deficiency Anaemia.

- *Samshodhana* and *Samshamana Chikitsa* in the form of internal and external medicine is the line of management of *Pandu Roga*.
- As *Pandu* is a *Pitta Pradhana Vyadhi*, *Pitta shamaka* treatment should be given, therefore *Darvyadi Lauha* and *Vasadi Kashaya*, fulfils the above criteria.

REFERENCES

1. Charaka Samhita, Text with English Translation based on Chakrapanidatta's Ayurveda Dipika, edited by Dr.R.K. Sharma & Vaidya Bhagwan Dash, Chowkhamba Sanskrit Series office, Varanasi (India). Edition 2004.
2. Sushruta samhita, Text with English translation ,by Kaviraj Kunjalal Bhishagratna, prologued and edited by Dr.Laxmidhar Dwivedi, Chowkhamba Sanskrit Series office, Varanasi (India). Third Edition 2005.
3. Ashtanga Hridayam of Vagbhata, edited with Vidyotini Hindi commentary by Kaviraja Atrideva Gupta, Chukhambha Prakashan, Varanasi. Edition 2009.
4. Ashtanga Samgraha of Vagbhata, Translated by Prof. K. R. Srikanthamurty, Chowkhambha Orientalia, Varanasi. Ninth Edition 200.
5. Madhava Nidana of Sri Madhavakara, with Madhukosha Sanskrit commentary by SriVijayarakshita and Srikantha Datta, Vidyotini Hindi commentary by Sri Sudarshana Shastri, Chowkhambha Sanskrit Sansthan, Varanasi, reprint Edition 2005.
6. Bhavaprakash of Bhavamishra, Vidyotini Hindi Commentry by Pt. Sri Brahma Sankara Misra, Chaukmbha Sanskrit Sansthan, Varanasi. Eighth Edition 2003.
7. KayaChikitsa by Dr. Vidyadhar shukla, Chowkhambha Surbharti Prakashan. Edition 2004.
8. Amarakosh of Amarasinha with Ramasrami commentary of Bhanuji Diksita, edited with the easy Maniprabha Hindi commentary by Haragovinda Shastri, Chaukhambha Sanskrit Sansthan, Varanasi. Fourth Edition 2001.
9. Baghel M S, Research in Ayurveda, Mridu Ayurvedic publications & sales, Jamnagar, 1997.
10. Dravya Guna Vijnana by Prof P.V. Sharma, Chaukhambha Bharati Academy, Varanasi. Edition 2000
11. Bhaisajyaratnavali, Vidyotini Hindi Commentry By Kaviraja Sri Ambikadatta Shastri, Edited by Rajeshwaradatta Shastri, Chaukhambha Sanskrit Sansthan, Varanasi. Edition 2004.
12. Indian Medicinal plants, edited by P. S. Warrier, Published by Orient Longman Private Limited.Reprint Edition, 2004.
13. Essentials of Medical Physiology, By K. Sembulingam and Prema Sembulingam, Jaypee Brothers Medical publishers, Delhi. Fifth Edition, Reprint, 2010.
14. Davidson's Principles and practice of Medicine, By Sir Stanley Davidson, Published by Churchill Livingstone, Elsevier. 20th Edition, 2006.
15. Guyton Arthur. C; Hall Jhon. E. Text Book of Medical Phisiology., 9th edition Harcourt Brace & company Asia pte Ltd Singapore.
16. API Textbook of Medicine, Edited by Dr. Siddharth N. Shah, Published By The Association of Physicians of India, Mumbai. 8th Edition, 2008.
17. Essentials of Haematology, By Shirish M Kawthalkar, Published by Jaypee Brothers Medical publishers (p) Ltd., New Delhi 2006.