INTERNATIONAL AYURVEDIC MEDICAL JOURNAL

IAMJ

International Ayurvedic Medical Journal (*ISSN: 2320 5091)* (August - September, 2017) 1(6)

A CLINICAL STUDY OF *PANDUROGA* W.S.R. TO IRON DEFICIENCY ANAEMIA IN NORTH INDIA

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Published online: September, 2017

ABSTRACT

In Ayurveda, *Pandu* (Anaemia) is mentioned in Charaka Samhita, Yogaratnakara, Vagbhata where it is described that the skin, nails, eyes become pale in colour and this condition is called as *Pandu*. It can be correlated with Anaemia. It occurs in any stages of the life, but is more prevalent in pregnant women and young children. Iron deficiency during pregnancy is associated with maternal mortality, preterm labour, low birthweight and infant mortality. Around 30% of the total world population is anaemic and 50% of these cases are due to iron deficiency. The clinical features of anaemia reflect diminished oxygen supply to the tissues, skin become pale. Patients having classical signs and symptoms of *Panduroga* have been selected from the O.P.D. and I.P.D. of Govt. Ayu. College & Hospital, Patna (Bihar). IDA was found more common among married, housewives, female patients, between 20 – 30 years of age group, living in rural population, with mixed dietary habit, reduced appetite, *madhyama agnibala, Vata–Pitta pradhana prakriti* followed by *Kapha–Pitta pradhana prakriti* and *madhyama satwa*. The signs of *Pandu i.e Panduta, Daurbalya, Pindikodweshtana, Hridayaspandana, Shunakshikuta, Karnakshweda, Bhrama, Jwara, Shwasa* and *Aruchi* were present in these patients. So *Panduroga* can be effectively compared with IDA on the grounds of its similar signs and symptoms.

Keywords: *Pandu*, Anaemia, Iron Deficiency Anaemia

INTRODUCTION

Anaemia is a global public health problem affecting both developing and developed countries with major consequences for human health as well as social and economic development. It occurs at all stages of the life cycle, but is more prevalent in pregnant women and young children. Iron defi-

ciency during pregnancy is associated with maternal mortality, preterm labour, low birth-weight and infant mortality. Around 30% of the total world population is Anaemic and 50% of these cases are due to iron deficiency, but the proportion may vary among different population groups and in different geographical areas according to the local conditions. [1,2]

Iron Deficiency Anaemia has resemblance with *Panduroga* in the aspect of etiology, clinical manifestation and management. The disease *Pandu* has been widely and thoroughly described in all Ayurvedic *Samhitas*. *Pandu* is a clinical condition characterized by whitish yellow discoloration of skin, eyes, nails, etc. The person with this disease suffers from decreased blood haemoglobin amount as well as strength and complexion of the person becomes insipid i.e. *Nihsara*. *Panduroga* is known since Vedic period and Iron preparations for its treatment are also well known since ancient time.[3]

AIMS AND OBJECTIVE:

The aim of study was to clinically assess *Panduroga* w.s.r to iron deficiency Anaemia in north Indian population.

MATERIALS AND METHODS:

Selection of Patients: Patients having classical signs and symptoms of *Panduroga* have been selected from the O.P.D. and I.P.D. of Govt. Ayu. College & Hospital, Patna (Bihar).

Inclusion Criteria:

- Age group between 20 to 70 years.

Cardinal Features of *Panduroga* like *Panduta, Daurbalya, Hridayaspandana, Pindikodweshtana* etc.

- Some Modern parameters of *Panduroga:*
  - Hb%: Adult Male : Below 13.0 g/dl, Adult Female : Below 11.5 g/dl.
  - MCV : Below 50 fl
  - MCH : Below 15 pg
  - MCHC : Below 20 g /dl
  - Serum iron**:** Below 30 µg/dL
  - Total Iron Bounding Capacity**:** > 400 µg/dL.
  - Peripheral blood film shows hypochromia, anisocytosis, poikilocytosis

Exclusion Criteria:

- Pregnant and lactating women.
- *Panduroga* with malignancy, diabetes mellitus, congenital anomalies and other serious complications.

STATISTICAL ANALYSIS:

Proper statistical analysis for obtained data was done on MS Excel software.

OBSERVATIONS AND RESULTS:

Total 34 patients were registered and subjected to various investigations already described above and out of which 5 patients left the study. Hence, the total number of patients is 29 for the present study. Out of 29 patients, 24 were female and 5 were male. The data collected and compiled from present study were statistically analyzed and presented with tabular form as follows.

Table 1: Age wise distribution

Age in Years	No. of pt.	%
20-30	11	37.93
31-40	8	27.59
41-50	6	20.69
51-60	3	10.34
61-70	1	3.45

Table 2: Marital status wise distribution

Marital status	**No. of pt.**	**%**
Married	22	75.86
Unmarried	3	10.34
Widow	4	13.80

Table 3: Occupation wise distribution

Occupation	**No. of pt.**	**%**
Housewife	19	65.51
Office	1	3.45
Business	5	17.24
Manual	2	6.90
Student	2	6.90

Table 4: *Agnibala* wise distribution

Agnibala	**No. of pt.**	**%**
Uttama	6	20.69
Madhyama	20	68.97
Heena	3	10.34

Table 5*:* *Prakriti* wise distribution

Prakriti	**No. of pt.**	**%**
Vata-Pitta	19	65.52
Vata-Kapha	2	6.90
Kapha-Pitta	8	27.58

Table 6: *Satwa* wise distribution

Satwa	**No. of pt.**	**%**
Uttama	2	6.90
Madhyama	22	75.86
Heena	5	17.24

Table 7: Signs & symptoms wise distribution

Signs & symptoms	**No. of pt.**	**%**
Panduta (Pallor)	29	100
Hridayaspandana (Palpitation)	19	65.51
Shunakshikuta	13	44.82
Karnakshweda (Tinnitus)	8	27.58
Daurbalya (Weakness)	29	100
Bhrama (Giddiness)	21	72.41
Jwara (Fever)	6	20.69
Shwasa (Breathlessness)	12	41.38
Aruchi (Anorexia)	20	68.96
Pindikodweshtana (Cramps in limbs)	27	93.10

DISCUSSION

Panduroga is a disease characterized by pallor of body which strikingly resembles with 'Iron deficiency anaemia' of Modern science. It has been noted that this disease along with its complications is a major cause of mortality and morbidity not only in India but also in the developed countries.[4] *Panduroga* and Iron deficiency anaemia has etiological, symptomatic and its management similarities.

Table 8: Comparison between the symptoms of *Pandu Lakshanas* & IDA:

Panduroga[3]	**Iron Deficiency Anaemia**[5]
Panduta of Twaka, Nakha, Anana, Vivarnata, Hataprabha	Pallor of skin, mucous membrane, conjunctiva, nails
Arohana, Adwaayasa	Exertional dyspnoea
Angasada, Nihasarata, Gaurava	Lassitude, Fatigue, Exhaustion
Daurbalya, Balahani	Weakness
Hridayaspandana	Palpitations, Tachycardia
Annadwita, Aruchi, Agnimandya	Anorexia, Indigestion
Karnakshweda	Tinnitus
Shishiradweshi	Hypersensitive to cold
Hrillasa, Praseka	Nausea
Anidra	Insomnia
Jwara	Low grade fever
Pindikodweshtana, Kati-Uru-Pada Ruk, Gatrashula	Aches and pains in various parts of the body
Shunakshikuta, Shotha	Oedema
Shiroruja	Headache
Bhrama	Giddiness
Shwasa	Breathlessness

Sex incidence in *Panduroga* in the present study was found as majority of patients were female with 82.76 % while only 17.24 % patients were male. Thus we can say that this disease is more prevalent in females. Reason behind this may be firstly of dietetic, as ladies are mostly found inclined towards spicy, sour *(amla)* and bitter *(tikshana) ahara* rather than a balanced diet. Secondly regular loss of blood due to menstruation makes them more prone to develop *Pandu*.

Out of 29 patients taken for study, maximum number of patients registered were in between 20–30 years of age group i.e. 37.93 % followed by 27.59 % in between age group 31–40 years, 20.69 % in between 41–50 years of age group, 10.34 % in between 51–60 years of age group & minimum patients i.e. 3.45 % were in age group of 61–70 years. 21 - 40 years of age is the time of maximum physiological growth, menstruation and child bearing age. Besides this, it is the age of maximum mental stress regarding studies, job etc. due to which proper nutritional diets may be ignored. Age above 41years is the period of menopause in females. It is a common practice in our country to take calcium and iron pills continuously especially during this period.

Percentage of married, widow and unmarried patients was 75.86 %, 13.80 % and 10.34 % respectively. Frequent deliveries, abortions make married females more prone for the disease. Besides few family restrictions for married females like eating in the last, the rendered food may also responsible for above observation.

13 patients (44.83 %) were from rural areas and 16 patients (55.17 %) were from urban areas. This may be due to geographical location of the hospital in the urban area.

Maximum no. of patients i.e. 65.51 % were housewives followed by 17.24 % doing business, 3.45 % were office going, 6.90 % were students where as 6.90 % were manual workers. In the cases of housewives the reason might be excessive labour and improper as well as inadequate diet; it was observed that *Diwaswapna* was done by most of the patients which is followed by *Agnimandya, Dhatvagnimandya, Rasa-rakta Dhatudushti* and *Pandu.*

Majority of patients i.e. 17 (58.62 %) were mixed in dietary habit and 12 (41.38 %) patients were vegetarian in the present study.

It was found that maximum number of patients i.e. 16 (55.17 %) were having normal appetite, 12 (41.38 %) were having reduced appetite where as 1 (3.45 %) patients were having increased appetite. Consuming insufficient food was leading to malnutrition which is the root cause of the disease.

Maximum no. of patients i.e. 68.97 % were having *madhyama agnibala* where as 20.69 % patients were having *uttama agnibala*, 10.34 % patients were having *heena agnibala*.

Majority of patients i.e. 65.52 % shown *Vata–Pitta pradhana prakriti* followed by *Kapha–Pitta pradhana prakriti* (27.58 %) and *Vata–Kapha pradhana prakriti* (6.90 %). *Vata–Pittaja* and *Kapha–Pittaja* persons were more prone to get *pitta* dominant *vyadhi Pandu*.

Maximum number of patients i.e. 75.86 % patients were having *madhyama satwa*, 17.24 % patients were having *heena satwa* and only 6.90 % patients were of *uttama satwa*. *Madhyama satwa* persons cannot handle the excessive mental burden and they strongly react upon it. Sometimes patients become victim of depression anxiety, stress, etc. All these factors influence the general health of the patients which again make the body prone to this disease.

Panduta was found in all the patients. This sign is the most conclusive sign of the disease because whenever any patient comes across, the first thing observed is the appearance.

Hridayaspandana was found in 65.51 % of patients. It is due to lack of proper nourishment and *Raktalpata.*

Shunakshikuta was found in 44.82 % of patients. It occurs due to lack of blood and *amotpatti* due to *mandagni.*

Karnakshweda was found in 27.58 % of patients. It is very unusual symptom, might be present due to *Dhatushaithilya* and *Kshaya* which leads to *Vata prakopa*.

Daurbalya was found in all patients. This is due to *rasa-raktadi dhatukshaya, raktalpata*, etc.

Bhrama was found in 72.41 % of patients. It is commonly present in anaemic patients due to lack of *Rasa-raktadi dhatus*.

Jwara was found in 20.69 % of patients. It may be probably due to vitiation of *Pitta pradhana dosha* and *Rasa Dhatudushti.*

Shwasa was present in 41.38 % of patients. *Ayasaja Shwasa* is observed in anaemic patients due to *Raktalpata*, more load of work and lack of proper nourishment to heart.

Aruchi was found in 68.96 % of patients.

Pindikodweshtana was also found in majority of patients i.e. 93.10 %. It may be due to some change in muscular tissue metabolism or due to weakness. Another reason is again vitiated *Vata* due to *Dhatukshaya.*

CONCLUSION

Ayurvedic and modern review regarding *Panduroga* and Iron Deficiency Anaemia respectively have been drawn. It mainly exhibits etiological, symptomatic, pathological and management similarities of *Panduroga* in general and Iron Deficiency Anaemia.

IDA was found more common among married (75.86 %), housewives (65.51 %), female patients (82.76 %), between 20 – 30 years of age group (37.93 %), living in rural population (44.83 %), with mixed dietary habit (58.62 %), reduced appetite (41.38 %), *madhyama agnibala* (68.97 %),

Vata–Pitta pradhana prakriti (65.52 %) followed by *Kapha–Pitta pradhana prakriti* (27.58 %) and *madhyama satwa* (75.86 %).

The signs of *Pandu* i.e *Panduta* and *Daurbalya* were found in all subjects (100%). Other signs present in patients were *Pindikodweshtana* (93.10 %), *Hridayaspandana* (65.51 %), *Shunakshikuta* (44.82 %), *Karnakshweda* (27.58 %), *Bhrama* (72.41 %), *Jwara* (20.69 %), *Shwasa* (41.38 %) and *Aruchi* (68.96 %).

So *Panduroga* can be effectively compared with IDA on the grounds of its similar signs and symptoms.

ACKNOWLEDGEMENT:

The expert intellectual assistance of Dr Pankaj Kumar, M.D.(Biochemistry), Senior Resident, ESIC PGIMSR CUM ODC MODEL Hospital, Mumbai, Maharashtra, India was greatly appreciated. We particularly thank Dr Pankaj Kumar for continual advice on paper writing and statistical analyses.

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Source of Support: Nil
Conflict Of Interest: None Declared

How to cite this URL: Parul Gupta et al: A Clinical Study Of Panduroga W.S.R. To Iron Deficiency Anaemia In North India. International Ayurvedic Medical Journal {online} 2017 {cited September, 2017} Available from: http://www.iamj.in/posts/images/upload/0695_0700.pdf