

A CLINICAL STUDY OF *PANDUROGA* WSR TO IRON DEFICIENCY ANEMIA AND ITS MANAGEMENT WITH *DHATRIYARIHTA* AND *PANDUGHNA VATI*

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ABSTRACT

Acharya Charaka has described *Panduroga* under *Rasa Kshayajanya Vyadhi*, which may cause malnourishment and deficiency of next *Dhatu Rakta* (Blood). Classically it can be compared with the *Panduroga* by their similar signs and symptoms. *Panduroga* is a disease characterized by pallor of body which resembles with 'Anemia' of modern science, disease to reduction of Hemoglobin. Iron Deficiency Anemia (IDA) is the most common type of Anemia overall, and is caused when the dietary intake or absorption of Iron is insufficient. Here 35 patients were selected in the study and randomly divided into two groups. Group A received *Dhatriyarista*, Group B *Pandughna Vati* received. At the end of 45 days symptomatic improvement and increase in Hb% in Group A and Group B were noticed. No significant therapy is there for chronic Anemia in Modern science which is often due to metabolic defect, so an attempt has been made to evaluate the efficacy of both drugs on Iron Deficiency Anemia.

Keywords: *Panduroga*, Iron Deficiency Anemia, *Dhatriyarista*, *PandughnaVati*.

INTRODUCTION

Pandu, is a disease characterized by pallor of body which resembles with 'Anemia' of modern science, disease to reduction of Hemoglobin and Pallor of Skin appears. The person with this disease suffers from decreased blood amount, strength and complexion. He becomes *Nihsara* (loss of natural integrity, tone and strength) ⁽¹⁾. *Rasa* and *Rakta* has been considered as a key factor for the *Prirana* and *Jeevana*, *Dharana* and *Poshana karma* of the body. Many a times it is seen that *Rakta* gets vitiated by *Doshas*, mainly by *Pitta dosha* as *Rakta* is *Pittavargiya* and disease like *Pandu* appear. In *Ayurveda*, *Pandu* is considered as a specific disease with its own pathogenesis and treatment And describing under *Rasa pradoshaj*

Vikara⁽²⁾ due to *Agni mandya* (Reduced Metabolism) and other chronic diseases (*nidanarthkar roga*). *Rasa dhatvagni mandya* leads to *Raktakshya* (Malnourishment of *Rakta*, which cause *Pandu roga* and symptoms like *Panduta*, *Rukshta*, *Hrid dravta*, *Shwasa Shotha* etc were developed⁽³⁾. The word Anemia in Greek means a lack of blood. Actually it is a deficiency of hemoglobin and there are various grades of this deficiency. Anemia can result from a large number of causes, including nutritional deficiencies, acute or slow loss of blood due to trauma or diseases. Iron deficiency, is the most prevalent nutritional deficiency in the world⁽⁴⁾. In modern medicine, there is good treatment for Anemia with considerable re-

sult but that is only for acute deficiencies No significant therapy is there for chronic Anemias which occur due to metabolic defects reported that these drugs has useful role in preventing *Pandu roga* (IDA) due to its Rejuvenating and Metabolic effect.

Aims and Objective: The aim of study was to clinically assess *Pandu roga* and to evaluate the efficacy of 'Dhatriyarishita' and *Pandughna Vati* in its management.

Materials and Methods: A total of 35 patients randomly selected from outpatients and inpatients department of *Roganidan* and *Kayachikitsa*, IPGT&RA, Jamnagar in the year 2006. 6 patients are discontinued during the treatment and 29 patients are treated completely.

Criteria for Selection of the Patients

Inclusion Criteria: 1. Primarily the Patients were selected on the basis of the presence of classical symptomatology along with some Modern parameters of *Panduroga*. 2. Patients having Hb%

For Female: Below 12 %

For Male: Below 13 %

Specific Investigation like Serum Iron level and TIBC were also carried out.

Serum iron

In Male Below 65–177 µg/dL (11.6–31.7 µmol/L);

In Female 50–170 µg/dL (9.0–30.4 µmol/L)

Total Iron Bounding Capacity: Below 250–370 µg/dL (45–66 µmol/L) were selected. Patients between the age group of 15–50 years were selected for the study.

Exclusion Criteria

- Patients suffering from AIDS, Cancer, Tuberculosis, Diabetes Mellitus and other disease Disorders.
- Pregnancy
- Age below 15 years and more than 50 years.

Investigations

- Hb %
- TC
- DC
- ESR

- Blood Indices: MCV, MCH, MCHC.
- Serum Iron Level
- Total Iron Binding Capacity
- Routine and Microscopic Urine and Biochemical examinations have excluded.

Preparation of Drugs: Both the drugs were prepared in the Pharmacy of IPGT & RA, Gujarat Ayurveda University, Jamnagar.

Group A: Dhatriyarishita

Ingredients:

1. *Amalaki Svarasa*
2. *Sharakara* (sugar)
3. *Madhu* (honey)

Prakshepa Dravya

1. *Pippali churna*

Method of Preparation of Drug: First *Dhupana karma* was done in porcelain jar, than *Amalaki Svarasa* was added in it, than *Sharakara* and *Madhu*, and in last *Pippali churna* was added as *Prakshepa dravyas*. *Sandhana* was done properly and after 45 days *Arishta* was carried out from the jar, filtered well and packed in brown bottle.

Group B: Pandughna vati (Anubhut yoga)

Ingredients

Churna Dravyas:

1. *Amlaki* - Fruit - 1 part
2. *Bibhitaki* - Fruit - 1 part
3. *Shunthi* - Rhizome - 1 part
4. *Maricha* - fruits - 1 part
5. *Pippali* - fruits - 1 part
6. *Punarnava* -Root - 1 part
7. *Vidanga* Seed - 1 part
8. *Katuki* -Rhizome - 1 part

Bhavana Drvyas:

1. *Gomutra 1 Bhavana*
2. *Kumari Swarasa 1 Bhavana*
3. *Punarnavamool 2 Bhavana*
4. *Amlaki 2 Bhavana*

Method of Preparation of Drug:

All the above drugs were taken in equal quantities and powdered was made of first eight drugs then *Bhavana* of above four drugs had given with different quantity, and *vati* of (150 mg) has prepared.

Drug, Dose and Duration

Group A: Dhatriyarishta- Dose: 20ml twice a day, Time of administration: Before meal
Duration: 45 days, Anupana: Water

Group B: Pandughna Vati- Dose: 150mg thrice daily, Time of administration: After meal, Duration 45 days, Anupana : water

Changes in patient's status were noted and following points were taken into consideration or assessment of results. To assess the effect of therapy objectively, all the signs and symptoms were given scoring pattern depending upon their severity as below:

1. Panduta (Paleness)

In - Tvaka, Nakha, Netravartma, Jihva, Hastapadatala

Absent - 0

In any 2 of these - 1

In any 3 of these - 2

In any 4 of these - 3

In all - 4

2. Daurbalya (Weakness)

Not Present - 0

After heavy work, relieved soon and tolerate - 1

After Moderate work relieved later and tolerate - 2

After little work relieved later - 3

After little work relieved later but beyond tolerate - 4

3. Hridspandanam (Palpitation)

Not Present - 0

After heavy work, relieved soon and tolerate - 1

After Moderate work relieved later and tolerate - 2

After little work relieved later - 3

After little work relieved later but beyond tolerate - 4

Hridspandanam even in resting condition - 5

4. Bharna (Vertigo)

Not Present - 0

After heavy work, relieved soon and tolerate - 1

After Moderate work relieved later and tolerate - 2

After little work relieved later - 3

After little work relieved later but beyond tolerate - 4

Bharna even in resting condition - 5

5. Shunakshikuta Shotha (Oedema around Eyes)

Absent - 0

Mild - 1

Moderate - 2

Severe - 3

6. Rukshata (Dryness)

In - Twaka, Nakha, Netravartma, Jihva, Hastapadatala

Absent - 0

In any 2 of these - 1

In any 3 of these - 2

In any 4 of these - 3

In all - 4

7. Shvasa (Dyspnea)

Not Present - 0

After heavy work, relieved soon and tolerate - 1

After Moderate work relieved later and tolerate - 2

After little work relieved later - 3

After little work relieved later but beyond tolerate - 4

Shvasa even in resting condition - 5

8. Aruchi (Loss of Appetite)

Normal instinct of taking food - 0

Person even dislikes the touch or smell of food - 1

Though the person is hungry he had dislike for food

Due to fear, anger etc - 2

Person doesn't like to take food due to Sharira/Manas doshas - 3

9. Pindikodveshtanam (Leg Cramps)

Absent - 0

After heavy work - 1

After moderate work - 2
 Only at night but beyond tolerate - 3
 Whole day, severe, require medicine - 4

10. Jvara (Fever)

No - 0
 Occasional - 1
 Daily once - 2
 Constant - 3

Follow up: The follow up study of patients were conducted for one month after completion of the treatment.

Criteria for Assessment: The improvement in the patient was assessed mainly on the basis of points that given below:

- Increasing percentage of the Hemoglobin.
- Improvement in the sign and symptoms of the disease.
- Improvement in the General Health and other Biological parameters.
- The outdoor patients were examined weekly.

Changes in patient’s status were noted.

Statistically Analyzed: The obtained data were analyzed statistically. The values were expressed as Mean ± SEM. The data were analyzed by paired ‘t’ test. The level of P<0.05 and (P<0.01, P<0.001) was consi-

dered as statistically significant and highly significant respectively. Level of significance was noted and interpreted accordingly

Criteria for Assessing the Total Effect: Considering the overall improvement shown by the patient in sign and symptoms, the total effect of the therapy has been assessed as below. It is assessed on the basis of percentage of relief obtained.

Criteria for Assessment of Results: Cured: When the sign and symptoms are improved about 75% and above.

Markedly improved: When the sign and symptoms are improved about 51% to 75%

Improved: When the sign and symptoms are improved about 25% to 50%

No improvement: When the sign and symptoms are below 25%

Observation and Results: The Effect of Dhatriyarishita on Chief Complaints is shown in Table 1. The Improvement in Haematological Investigations is shown in Table 2 and Improvement in Serum Iron level and in Total Iron Binding Capacity (TIBC) is shown in Table no 3.

Table 1: Effect of Dhatriyaishita on Signs and Symptoms of IDA.

Sign and Symptoms	N(Total 13 patients)	Mean		% Re-lief	S.D.	S.E.	‘t’	p
		B.T.	A.T.					
<i>Panduta</i>	13	2.15	1	56.73	0.55	0.15	7.5	<0.001
<i>Daurbalyta</i>	13	2.07	0.92	55.55	0.69	0.20	6.04	<0.001
<i>Hridaspandanama</i>	06	1.83	0.83	54.65	0.89	0.36	2.73	<0.05
<i>Bhrama</i>	08	1.75	0.5	71.42	0.46	0.16	7.63	<0.001
<i>Shunakshikut shotha</i>	05	1.4	0.6	57.14	0.44	0.20	4	<0.01
<i>Rukshata</i>	10	2.4	1.6	33.33	0.63	0.20	4	<0.01
<i>Shvasa</i>	06	1.66	0.83	50	0.75	0.30	2.71	<0.05
<i>Aruchi</i>	09	1.66	0.44	33.33	0.72	0.24	2.29	<0.01
<i>Pindikodweshnama</i>	12	2.16	1	53.84	0.57	0.16	7	<0.001
<i>Jvara</i>	05	2.4	1.2	14.86	0.44	0.2	6	<0.001

Table 2: Effect of Dhariyarishita on Haematological Investigations of IDA

Investigations	N	Mean		% Re-lief	S.D.	S.E.	‘t’	P
		B.T.	A.T.					
Hb%	13	10.77	11.30	4.8	1.17	0.32	1.7	<0.01

TRBC	13	4.22	4.34	2.77	0.22	0.06	2.21	<0.05
MCV	13	80.55	81.4	1.04	3.60	1	0.76	<0.01
MCH	13	25.33	26.2	3.36	1.87	0.57	1.64	<0.1
MCHC	13	31.73	31.8	0.19	1.44	0.4	0.15	<0.1
ESR	13	22.30	20.46	8.17	10.14	2.81	0.65	<0.1

Table 3: Effect of Dhatriyashtha on Serum Iron level and TIBC on IDA

Investigations	N	Mean		% Relief	S.D.	S.E.	't'	P
		B.T.	A.T.					
Serum Iron /dl	5	34	35	2.94	2.00	0.89	1.11	<0.1
TIBC	5	378	395.8	4.6	9.3	4.15	4.18	<0.05

The Effect of *Pandughna vati* on Chief Complaints is shown in Table 4. The Improvement in Haematological Investigations is shown in Table 5 and Improvement in Se-

rum Iron level and Total Iron Binding Capacity (TIBC) is shown in Table no 6.

Table 4: Effect of Pandughna vati on Signs and Symptoms of IDA

Sign and Symptoms	N (Total 16 patient)	Mean		% Relief	S.D.	S.E.	't'	p
		B.T.	A.T.					
<i>Panduta</i>	11	2.27	0.81	64	0.52	0.13	9.6	<0.001
<i>Daurbalyta</i>	11	2.29	1	65.5	0.45	0.13	14.07	<0.001
<i>Hridaspandanama</i>	09	1.90	1	43.30	0.78	0.26	4.26	<0.01
<i>Bhrama</i>	08	1.87	0.36	80.70	0.5	0.17	7.74	<0.001
<i>Shunakshikut shotha</i>	08	1.87	1	46.50	0.9	0.32	3.56	<0.001
<i>Rukshata</i>	09	3.44	2.44	29.10	0.5	0.16	6.25	<0.01
<i>Shvasa</i>	09	2.1	0.44	79.05	0.52	0.18	8	<0.01
<i>Aruchi</i>	08	6.7	1	63.0	0.7	0.24	7.2	<0.001
<i>Pindikodweshnama</i>	11	2.63	0.81	69.20	0.53	0.16	11.3	<0.001
<i>Jvara</i>	07	1.71	0.57	66.7	0.37	0.14	8.4	<0.001

Table 5: Effect of Pandughna vati on Haematological Investigations of IDA

Investigations	N	Mean		% Relief	S.D.	S.E.	't'	P
		B.T.	A.T.					
Hb%	16	10.63	10.91	2.70	4.31	1.07	2.4	<0.05
TRBC	16	4.34	4.41	1.60	4.40	0.12	0.15	<0.1
MCV	16	76.85	86.03	10.7	6.33	1.58	2.93	<0.01
MCH	16	24.9	25.8	3.5	3.18	0.85	1.18	<0.1
MCHC	16	30.7	33.8	9.0	2.11	0.52	2.38	<0.05
ESR	16	28.5	18.75	34.2	18.7	4.67	2.2	<0.05

Table 6: Effect of Pandughna vati on Serum Iron level and TIBC on IDA

Investigations	N	Mean		% Relief	S.D.	S.E.	't'	P
		B.T.	A.T.					
Serum Iron	5	35.33	31.33	13.20	5.50	2.46	1.59	<0.05
TIBC	5	352	390	10.80	27.70	12.40	3.06	<0.05

DISCUSSION AND CONCLUSION

Pandu roga is *Pitta pradhana vyadhi*, *Pitta* is responsible for the normal colour of the

body but when it get vitiated, loss *Panduta* (Pallor) occurs. Though *Pitta* is *pradhana dosha* in *Pand roga*, *Vata dosha* also plays crucial role in manifestation of *Pandu roga*, mainly *Vyana vayu* has a relation with *Samprapti* of *Pandu roga*.

Pandu roga can be effectively compared with Anemia on the grounds of its similar signs and symptoms the modern medicine provides good treatment for Anemia with considerable result but that is only for acute deficiency Anemia, no significant therapy is there for chronic Anemia which occurs due to metabolic defects. So *Ayurveda* can provide better management of this. It is obvious that Anemia is most common among females due to menstruation, poor general health, improper and inadequate diet which leads to malnutrition leading to Iron Deficiency Anemia. 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 Haem, even at neutral pH, and is not affected by dietary maintains the phosphate and phytate. Here in these trial compounds, *Pandughna vati* which contains *Deepana*, *Pachana dravya*? Which increase Gastric acidity through their *Ushna* and *Tikshna guna*, and *Ushna virya* nature helps to destroy the *srotorodha*. So, metabolism improves, ultimately digestion was improves leads to proper *Dhatu poshana*. Second trial compound is *Dhatriyarista* contains mainly *Amalaki*, which is best *Rasayana*, *Tridosha hara*, *Vatanulomak* and *pitta shamaka*.⁽⁶⁾ and it is a well known fact that due to its *Ashukari* and *Vyvayi* properties of *Dhatriyarishita*. it get easily absorbed in the body channels (*Srotasa*) and thus exhibit the properties of applied drugs at a much faster level *Amalaki* is main in both trial compound, but in different forms and it contains high amount of Vitamin C, which reduces ferric iron to ferrous iron which remains soluble even at neutral pH and is better ab-

sorbed.⁽⁷⁾ Even when the diet is poor in iron, Vitamin C supplement with each meal enhance iron absorption. Vitamin C taken in divided doses with each meal will increase iron absorption to a greater extent. Hence *Dhatriyarishita* and *Pandughna vati* both compound showed highly significant respond in *Panduroga* due to metabolic effect.

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