

## EFFECT OF VIBHITAKADI VATAKA IN MANAGEMENT OF PANDU ROGA W.S.R IRON DEFICIENCY ANAEMIA – A CLINICAL STUDY

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### ABSTRACT

*Pandu Roga* is a disease manifesting in *Rasavaha Srotas* in which *Panduta* is the main *Lakshana*. Symptomatology manifested relates *Pandu Roga* to disease Anaemia in general. Iron Deficiency Anaemia is the most common cause of Anaemia globally. There is a need for simple and effective medicine for the management thus the clinical study was taken up. A total of 20 patients who fulfilled the inclusion criteria were selected, and were administered with *Vibhitakadi Vataka* 1 tab (500mg) with *Takra* as *Anupana* after food for 30 days and a follow up of 15 days without any intervention. The *Samanya Lakshanas* of *Pandu* were observed, recorded and assessed. The assessment of the efficacy of the treatment was based on subjective parameters and Objective parameter considered for the study. To infer the clinical study and to draw conclusion paired 't' test was applied for all the parameters considered for the study. On all the parameters considered for the study such as *Panduta*, *Aarohana Aayasa*, *Bhrama*, *Hrid Spandana*, *Pindikodwestana*, *Gatra Shoola*, *Dourbalya* and on Hemoglobin Percentage; *Vibhitakadi Vataka* showed highly significant results before treatment to after treatment and before treatment to at follow up.

**Keywords:** Iron Deficiency Anaemia; *Pandu Roga*; *Vibhitakadi Vataka*.

### INTRODUCTION

*Pandu Roga* is a *Varnopalakshita Vyadhi* (Change in colour-Pallor look) of *Rasavaha Srotas*<sup>1</sup>. The incidence of this disease is rising due to the modern day life styles, consumption of readymade food, beverages and stressful work schedules. *Pandu Roga* is a disease characterized by *Alaparaktata*, *Alpamedaska*, *Nissarata*, *Shitilindriya*, & *Vaivarnya*<sup>2</sup> which resembles with general symptoms of 'Anaemia' of contemporary science. As per modern sci-

ence Anaemia which signifies 'A reduction below normal in the concentration of Haemoglobin or red blood cells in the blood' there is a reduction in oxygen transporting capacity of blood<sup>3</sup>. Anaemia is public health problem globally affecting both developing and developed countries with major consequences for human health as well as social and economic development. Iron deficiency anaemia is the most common type encountered in developing coun-

tries. Hence, it is the need of the study to develop medicaments for better management of this condition. *Snehana, Urdwa and Adho Shodhana* with *Teekshna* drugs<sup>4</sup>, *Shamana Chikitsa* are the main lines of treatment adopted by our *Acharyas* in the management of *Pandu Roga*. Different modalities of treatments, diet plans, iron supplements etc; have emerged to manage iron deficiency anaemia. *Ayurveda* advocate the treatment of *Pandu* with many herbal and herbo-mineral combinations. *Vibhitakadi Vataka* is one of the preparations intended to be used in *Pandu Roga*.

**Table 1:** Showing diagnostic criteria taken for the study

Diagnostic criteria
<i>Panduta</i>
<i>Hridspandana</i>
<i>Dourbalya</i>
<i>Pindikodvestana</i>
<i>Bhrama</i>
<i>Aarohana Aayasa</i>
<i>Gatra Shoola</i>
Haemoglobin percentage

**Table 2:** Showing inclusion criteria taken for the study

Inclusion criteria
Patients presenting with <i>Samanya Lakshanas</i> of <i>Pandu Roga</i>
Haemoglobin percent $\geq 7$ to $\leq 12$ gm%.
Peripheral Blood smear showing microcytic hypochromic anaemia.
Patient of either sex aged between 16 - 55 years.

**Table 3:** Showing exclusion criteria taken for the study

Exclusion criteria
<i>Garbini Pandu</i> .
<i>Pandu</i> associated with any other systemic disorder interfering with the treatment.

**Table 4:** Showing laboratory investigations included for the study

Laboratory investigations
<b>a. Blood for</b>
➤ Haemoglobin percentage.
➤ Total Count, Differential Count.
➤ Erythrocyte Sedimentation Rate.
➤ Random Blood Sugar.
➤ Peripheral smear for anaemia.
<b>b. Urine routine</b>

**Duration of study-** 45 days  
Day 1- Before treatment (BT)

Day 31- After treatment (AT)  
Day 46- At follow up (AF)

### Ingredients and preparation of *Vibhitakadi Vataka*<sup>5</sup>

**Table 5:** Showing ingredients of *Vibhitakadi Vataka*

Sl.no	Dravya	Prayojya anga	Latin name	Proportion
1.	<i>Vibhitaki</i>	<i>Phala</i>	<i>Terminalia bellirica</i>	1 Part
2.	<i>Nagara</i>	<i>Kanda</i>	<i>Zingiber officinale</i>	1 Part
3.	<i>Tila</i>	<i>Beeja</i>	<i>Sesamum indicum</i>	1 Part
4.	<i>Guda(Purana)</i>	Solid form of <i>Ikshu Rasa</i>	<i>Saccharum officinarum</i>	4 Parts
5.	<i>Ayo-mala</i>	<i>Bhasma</i> form	Ferric oxide	1 Part

#### Method of preparation-

Fine powders of *Vibhitaki*, *Nagara* and *Krushna Tila* are prepared and mixed with *Mandura Bhasma (Ayo-mala)*. *Guda* is subjected for *Paaka* (1 or 2 thread consistency) to this the above mentioned powders are added, mixed well and pills of 500mg were rolled out and subjected for complete drying.

✓ **Dose-** 500 mg, BD

✓ **Anupana-** *Takra*

✓ **Indications -** *Pandu Roga*

#### Assesment criteria

The assessment was done on the basis of subjective and objective parameters as per the proforma.

#### Subjective parameters-

The subjective parameters considered for the study was scored from 0-3 for the purpose of statistical analysis.

➤ *Panduta*

➤ *Hridspandana*

➤ *Dourbalya*

➤ *Pindikodvestana*

➤ *Bhrama*

➤ *Aarohana Aayasa*

➤ *Gatra Shoola*

The assessment was done on-

• Day 1- Before treatment (BT)

• Day 31- After treatment (AT)

• Day 46- At follow up (AF)

#### Objective parameter-

The objective parameter considered for the study was recorded as actuals for the purpose of statistical analysis.

➤ Haemoglobin percentage.

The assessment was done on-

• Day 1- Before treatment (BT)

• Day 31- After treatment (AT)

#### Scoring index

**Table 6:** Scoring pattern for *Panduta (Pallor)*

Score	Criteria
0	Absent
1	Visible only in the conjunctiva
2	Visible in conjunctiva & nail.
3	Visible in the conjunctiva, nail, face, tongue and palms

**Table 7:** Scoring pattern for *Hridspandana* (Palpitation)

Score	Criteria
0	Not present
1	After moderate work, relived soon
2	After mild work, relieved later
3	Even at rest

**Table 8:** Scoring pattern for *Dourbalya* (Weakness)

Score	Criteria
0	No weakness
1	Weakness on doing moderate work, relieved soon
2	Weakness on mild work, relieved later
3	Weakness even at rest

**Table 9:** Scoring pattern for *Pindikodvestana* (Cramps in calf muscles)

Score	Criteria
0	Absent
1	Occasional, tolerable
2	Often, tolerable
3	Often, severe, requires medicine

**Table 10:** Scoring pattern for *Bhrama* (Dizziness)

Score	Criteria
0	Absent
1	Mild without affecting daily living activities
2	Mild, affecting daily routine
3	Even on sitting or on performing daily activities

**Table 11:** Scoring pattern for *Aarohana Aayasa* (Exertional Dyspnoea)

Score	Criteria
0	No dyspnoea on exertion
1	Dyspnoea when hurrying on the level or walking up a slight hill
2	Dyspnoea when walking with people of own age or on level ground
3	Has to stop because of dyspnoea when walking on the level ground

**Table 12:** Scoring pattern for *Gatra Shoola* (Generalised body ache)

Score	Criteria
0	Absent
1	Occasional, tolerable
2	Often, tolerable
3	Often, severe, requires medicine

**Results-**

Symptoms		MD	SD	SE	't' Value	'p' Value	Re-mark
<i>Panduta</i>	BT-AT	0.62	0.50	0.12	5	<0.001	HS
	BT-AF	0.93	0.44	0.11	8.47	<0.001	HS
<i>Hrid-spandana</i>	BT-AT	0.75	0.44	0.11	6.70	<0.001	HS
	BT-AF	1.12	0.5	0.12	9	<0.001	HS
<i>Dourbalya</i>	BT-AT	0.83	0.70	0.16	5.12	<0.001	HS
	BT-AF	1	0.68	0.15	6.34	<0.001	HS
<i>Pindiko-dvestana</i>	BT-AT	0.6	0.5	0.13	4.57	<0.001	HS
	BT-AF	1.06	0.88	0.22	4.67	<0.001	HS
<i>Bhrama</i>	BT-AT	0.75	0.46	0.15	4.86	<0.001	HS
	BT-AF	0.87	0.35	0.12	7.42	<0.001	HS
<i>Aarohana Aayasa</i>	BT-AT	0.47	0.51	0.11	4.06	<0.001	HS
	BT-AF	0.63	0.49	0.11	5.54	<0.001	HS
<i>Gatra Shoola</i>	BT-AT	0.87	0.35	0.12	6.97	<0.001	HS
	BT-AF	1.12	0.35	0.12	8.97	<0.001	HS
Haemo-globin percentage	BT-AT	1.20	0.62	0.13	8.61	<0.001	HS

Out of 20 patients on overall therapy, all 20 patients got highly significant results on all the parameters considered for the studies.

**DISCUSSION****Probable mode of action of Vibhitakadi Vataka**

*Vibhitakadi Vataka* contains *Vibhitaki*, *Nagara*, *Tila*, *Purana Guda* and *Ayo-mala*. It is said to cure *Ghora Pandu Roga*.<sup>6</sup> *Guda* contains iron, copper, mineral salts and some amount of vitamins; which help in proper formation of haemoglobin<sup>7</sup>; due to the presence of sucrose it provides energy for a longer time thus decreases the symptoms such as fatigue and weakness. *Tila* is said to possess some of the minerals like potassium, phosphorus, sodium and calcium. Potassium is an essential nutrient and has an important role in the synthesis of amino acids and proteins which are necessary for haemoglobin formation<sup>8</sup>. *Mandura Bhasma* (ferric oxide) improves the haeme part of haemoglobin which in turn corrects the microcytic condition of the RBC to normocytic RBC and imparts colour to RBC thereby improves the oxygen carrying capacity of blood thus decreases pallor, dizziness, weakness and haemoglobin percentage which is seen in Iron deficiency anaemia. *Nagara* and *Vibhitaki* have anti-oxidant property

which helps in better absorption of the drug by increasing the bio-availability of the drug<sup>9</sup>.

**➤ Effect of treatment on Panduta**

*Vibhitaki* and *Mandura Bhasma* have *Kashaya Rasa* which is said to be *Pitta-Kapha Shamaka* and *Asra Vishodhaka*<sup>10</sup>; *Guda* by its *Pittaghna* and *Rakta Prasadaka* property helps in *Rakta Prasadana*,<sup>11</sup> it has *Madhura Rasa*; which is said to be *Varnya*<sup>12</sup>. *Takra* used as *Anupana* acts as *Tridosha Shamaka*<sup>13</sup>; thereby decreasing the *Panduta*.

**➤ Effect of treatment on Hridspandana**

*Nagara* is considered to be *Hridya*; having *Rochana* and *Deepana* property. *Tila* and *Mandura Bhasma* is said to be *Agni Vardhaka*<sup>14</sup>. *Guda* having *Madhura Rasa* does *Rasa Vardhana*. *Anupana Takra* has *Hridya* Property<sup>15</sup>. Drugs having *Deepana* property will kindle the *Agni* there by proper *Sarabhuta Rasa* is formed, which has *Karma* of *Prenana* (Nourishing) thus decreasing *Hrid spandana*.

**➤ Effect of treatment on Dourbalya**

*Mandura Bhasma* by its *Deepana* property<sup>16</sup> does *Agni Deepana* and *Guda* having *Madhura Rasa* acts

as *Balya*. *Nagara* has property of *Ama Pachana*.<sup>17</sup> By action of all these drugs *Ama Pachana* and *Agni Deepana* takes place, restoring *Kriya Samarthyaya* of *Dhatu* thereby improving the *Bala*; *Takra* used as *Anupana* is said to be *Agni Deepana*, *Tridosha Shamaka* and *Shonita -Mamsa Vardhaka* thus reducing *Dourbalya*.<sup>18</sup>

➤ **Effect of treatment on *Pindikodvestana***

*Tila* by its *Snigdha Guna* is said to be *Anilaghna*.<sup>19</sup> *Nagara* by its *Madhura Vipaka* acts as *Anilahara* and *Shoolahara*. *Guda* having *Vata-Pittaghna* property<sup>20</sup>, *Anupana Takra* does have *Shoolaghna*<sup>21</sup> property, *Mandura Bhasma* does *Rakta Vriddi*; thereby decreasing *Pindikodvestana*.

➤ **Effect of treatment on *Bhrama***

*Mandura Bhasma* and *Guda* have *Pittashamana*<sup>22</sup> property. *Nagara* and *Tila* decreases *Vata* thereby decreasing *Bhrama*.

➤ **Effect of treatment on *Aarohana Aayasa***

*Nagara* is said to be *Hridya*<sup>23</sup>, *Guda* being *Madhura* in *Rasa* acts as *Shramahara* by *Rasa*, *Rakta*, *Mamsa*, *Meda*, *Asthi*, *Majja* and *Ojo Vardhana*<sup>24</sup>; *Mandura Bhasma* does *Rakta Vriddi* thus reduces *Aarohana Aayasa*.

➤ **Effect of treatment on *Gatra Shoola***

*Nagara* is said to have *Vataghna* and *Shoolahara* property. *Tila* is said to be *Anilaghna*, *Guda* has property of *Rakta-Mamsa-Meda-Majja Vriddikara*; thus *Dhatu Vriddi* takes place thereby *Guda* acts as *Kinchit Vataghna* and by its *Madhura Rasa* it does *Rasadi Dhatu Vardhana*<sup>24</sup> thereby counters the *Vata Vriddi* thus reducing *Gatra Shoola*.

➤ **Effect of treatment on Haemoglobin percentage**

*Mandura Bhasma* acts as iron supplement improving the formation of heme part of the haemoglobin; *Guda* have traces of mineral salts and traces of ferrous salts helps erythropoiesis; *Takra* administered as *Anupana* will facilitate better absorption of iron thereby improve the haemoglobin percentage<sup>25</sup>.

Thus *Vibhitakadi Vataka* worked in decreasing the signs and symptoms pertaining to that of iron deficiency anaemia.

## CONCLUSION

*Pandu Roga* can be correlated to anaemia in general according to contemporary science; having clinical features such as pallor, weakness or tiredness, poor concentration, palpitation, shortness of breath. The ignorance and lack of attention towards proper quantity, quality and timely diet, the stressful life style in present scenario are the major contributing factors for manifestation of *Pandu Roga* in this study. From the present study it can be concluded that *Vibhitakadi Vataka* is effective in management of *Pandu Roga* – iron deficiency anaemia. No adverse effects were observed during the course of this study. In order to draw a specific conclusion further studies can be taken along with few blood investigations i.e., CBC as a tool, study duration can be increased.

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