

CLINICAL EVALUATION OF VIDANGADI LOHA IN THE MANAGEMENT OF PANDU ROGA

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ABSTRACT

The severe change in life style and food habits is main cause of *Pandu Roga*, one of the commonest and most prevalent diseases known to mankind. Vitiated *Pitta Pradhana Tridosha* vitiates *Rakta* as *Rakta* is *Pittavargiya* and disease like *Pandu Roga* appears. A randomized open clinical trial was conducted with aims to evaluate the efficacy of *Vidangadi Loha*. Total 16 patients of *Pandu Roga* of age group between 16 to 60 years having Hb 6gm% to 10gm% were treated with *Vidangadi Loha* 4 tab (250mg each) twice a day for 6 weeks respectively. Assessment was done on the basis of relief in clinical sign-symptoms and hematological parameters. Therapy provided statistically highly significant result on signs and symptoms of *Pandu Roga* mainly on *Panduta* (paleness), *Daurbalya* (weakness), *Parshva Shiro-ruka* (Headache), *Kopana* (Anger), *Sadana* (Fatigue). Most of drugs of *Vidangadi Loha* improve *Agni*.

Keywords: *Agnimandhya*, *Agni*, *Pandu Roga*, *Vidangadi Loha*.

INTRODUCTION

Majority of people living below poverty line, unhygienic food habits, nutrition deficiency and illiteracy. Other people has no time for themselves to adjust their life in these mechanical life style which is fast, etc and full of stress. All these factor create *Pandu Roga* which is one of the commonest and most prevalent disease known to mankind and appears to be common in humans irrespective of age, sex and religion. As these factors are seen to be more common in children and women the *Pandu Roga* is prevalent in them. Many of times it is seen that *Rakta* gets vitiated by *Dosha*, mainly by *Pitta Dosha* as *Rakta* is *Pittavargiya* and disease like *Pandu Roga* appear. *Pandu Roga* is *Pitta Pradhana Vyadhi* (Dominancy of *Pitta*).

Due to *Hetu Sevana* (Causative factors), *Pitta Pradhana Tridosha* gets vitiated and circulated in the whole body causing *Shithilata* (bluntness) in all *Dhatu* which ultimately reduces *Rakta* and *Meda Dhatu*. There is *Sneha* and *Rakta Dhatu* is decreased and also *Rupa* (Appearance), *Oja Guna*, *Varna* (Color), *Bala* (strength) are reduced in *Pandu Roga*. In modern the nearest correlation of Anemia can be done with *Pandu*. Anemia is a condition that occurs when the hemoglobin concentration in blood below the low limit of normal range for the age and sex of individuals. According to WHO Global Database on Anemia-“Worldwide prevalence of Anemia 1193-2205”, it affects 1.62billion people who correspond 24.8% of the

population.

In present study, *Vidangadi Loha* had been selected for following reasons: *Mandagni* is the motive cause for *Pandu Roga* and “*Vidangadi Loha*” Contains *Chavya Chitraka* like *Shadushna Dravya* which diminishes *Mandagni* and breaks the pathogenesis of *Pandu Roga*. It also has *Amapachana* property. Hence it promotes *Dhatvagni* and as a result *Dhatupushti* process is motivated.

Aims and objectives:-

1. To study the etiopathogenesis, symptomatology of the *Pandu Roga* according to *Ayurvedic* classics as well as modern medical science.
2. To study the effectiveness of *Vidangadi Loha* on *Pandu Roga*.

MATERIAL AND METHODS

Selection of patients:

There were 16 patients attended the O.P.D. of Govt. Akhandanand *Ayurved* College & Hospital, Ahmedabad and Govt. Maniben *Ayurved* hospital, Ahmedabad who were fulfilling the criteria of the disease were selected and distributed following therapeutic groups irrespective of their age, sex, religion etc. for the present study. The study has been approved by Institutional Ethics Committee and is registered to CTRI (CTRI/2015/09/006200) and consent form each patient was obtained before starting the course of treatment.

Inclusion criteria:-

- Patient having classical symptoms of *Panduroga* were selected for the thesis work.
- Patient having Hb 6 gm% to 10 gm% were selected.
- Only these patient having low level of haemoglobin, RBC count, PCV, MCV, MCH, MCHC, TLC, Reticulocyte count were selected for the study.
- Patients having *Pandu Roga* without

complication

- Patients age limit 16 to 60 year.

Exclusion criteria:-

- Congenital Anemia likes *Thalassemia*, *Sickle cell Anemia*, *Leukemia*, *Aplastic Anemia*, *Anemia due to bleeding piles*, *Menorrhagia*.
- Patient age <16 to >60 years.
- Patient having any other major complicated disease like *Cardiac disease*, *Diabetes Mellitus*, etc. were excluded.
- Pregnant women were excluded.
- Patient suffering with *Asadhya* and *Arishta lakshana* described in *Ayurvedic* classics.

• **Diagnostic criteria:-**

Diagnosis will be done on basis of

- Clinical signs and symptoms mentioned in *Ayurvedic* classics as well as modern medicine texts.

- Pathological laboratory investigation as.

➤ Blood:-

- Haemoglobin estimation, Total RBC count, P.C.V (Packed Cell Volume), MCV, MCH, MCHC, Total leucocytes count, ESR.
- Reticulocyte count ,TIBC, S.iron (If possible)
- Routine Stool examination and other relevant pathological examination will be done as per necessary. Essential investigations will be carried out before and after treatment

Posology:-

There were 16 patients were treated with “*Vidangadi Loha* *Vidangadi Loha* ¹(Table 1)

- *Bhavana Dravya: Gomutra*
- Dose : 4 Vati each of 250 mg two times a day after the meal.
- *Anupan* : water.
- Duration : 6 week.

Diet: - Patient was allowed to follow *Pathya-Apathya* mentioned for *Pandu*. *Vati* was prepared as per the classical method of manufacturing *Vati Kalpana* mentioned *Sharangdher Samhita* by Govt. Ayurvedic Pharmacy, *Rajpipala*.

Improvement in clinical findings as well as laboratory investigations, which were repeated after the completion of treatment also.

Improvement in the clinical signs and symptoms were assessed by adopting the following scoring method.

Criteria for assessment: Assessment of the result was made on the basis of im-

1. *Panduta* (Pallor). The score was decided on the basis of *Panduta* present in *Twaka* (Skin), *Nakha* (nail), *Netravatma* (conjunctiva), *Jihva* (tongue) and *Hastapadotala* (palm and footer surface).

| | |
|------------------------------|----------|
| Absent | 0 |
| In any two of these | 1 |
| In any three of these | 2 |
| In any four of these | 3 |
| In any five of these | 4 |

2. *Daurbalya* (general weakness)

| | |
|---|----------|
| No <i>Daurbalya</i> | 0 |
| Not able to perform strenuous activity. | 1 |
| Not able to perform moderate activity. | 2 |
| Cannot perform moderate activity but can perform mild activity without any difficulty. | 3 |
| Even mild activities cannot be performed. | 4 |

3. *Rukshata* (dryness)

| | |
|---|----------|
| No line on scrubbing with nail | 0 |
| Faint line on scrubbing by nail | 1 |
| Lining & even words can be written by a nil | 2 |
| Excessive <i>Rukshata</i> leading to <i>Kandu</i> | 3 |
| Dryness/roughness and crisscross visible cracking of skin. | 4 |

4. *Aayasen Shwasa* (dyspnea)

| | |
|--|----------|
| Not present | 0 |
| After heavy work, relieved soon & tolerate | 1 |
| After moderate work but relieved later & upto tolerance | 2 |
| After little work but relieved later & upto tolerance | 3 |
| After little work but relieved later & beyond tolerance | 4 |
| <i>Shwasa</i> even in resting condition | 5 |

5. *Pindiko-Dweshtana* (leg cramps)

| | |
|---|----------|
| Absent | 0 |
| <i>Pandiko-Dweshtana</i> only during heavy-works like exercise, running, climbing, up-stairs, lifting heavy objects etc. | 1 |
| <i>Pindiko-Dweshtana</i> during normal Routine light works like walking etc | 2 |
| <i>Pindiko- Dweshtana</i> continuously Throughout day even during resting condition | 3 |

6. Nidraluta (excessive sleep)

| | |
|--|---|
| Normal sleep 6-7 hrs. per day | 0 |
| Sleep up to 8 hrs./day with <i>Anga Gaurava</i> | 1 |
| Sleep up to 8 hrs./day with <i>Anga Gaurava</i> and <i>Jrimbha</i> | 2 |
| Sleep up to 10 hrs./day with <i>Tandra</i> | 3 |
| Sleep more than 10 hrs./day with <i>Tandra</i> and <i>Klama</i> | 4 |

7. Gaurav (heaviness)

| | |
|---|---|
| No heaviness | 0 |
| Occasionally feeling of heaviness for sometimes in hands and feet | 1 |
| Feeling of heaviness for sometimes in hands and feet not affecting activities of daily living | 2 |
| Daily feeling of heaviness over body, which leads to <i>Akarmanyata</i> | 3 |
| Most part of the body for long duration | 4 |
| All body for most part of the day | 5 |

8. Parshvashiroruka (headache)

| | |
|------------------------------------|---|
| No pain | 0 |
| Occasional pain 1 to 22 time/ week | 1 |
| Pain 3 to 5 times / week | 2 |
| Pain more than 5 times / week | 3 |
| Continuous pain | 4 |

9. Aasya-Vairasya (anorexia)

| | |
|--|---|
| Normal taste of mouth | 0 |
| Occasional sensation of unpleasant taste | 1 |
| Continuous sensation of unpleasant taste but vanishes after eating something | 2 |
| Continuous mild sensation of unpleasant taste which persists even after eating | 3 |
| Severe unpleasant taste throughout the day | 4 |

10. Kopana (Anger)

| | |
|--|---|
| No anger even for reasonable cause | 0 |
| Gets angry only for reasonable cause | 1 |
| Gets angry even for unreasonable cause | 2 |
| Highly irritable for no cause, uncontrollable anger with body gestures | 3 |

11. Bhrama (giddiness)

| | |
|--|---|
| No Reeling of head/ <i>Bhrama</i> | 0 |
| Sometimes feeling of reeling head/ <i>Bhrama</i> | 1 |
| Feeling of reeling head/ <i>Bhrama</i> < 3 times a day | 2 |
| Feeling of reeling head/ <i>Bhrama</i> > 3 times a day | 3 |
| Frequently feeling of reeling head change of posture causes the severe problem | 4 |

12. Jwara (fever)

| | |
|------------|---|
| No | 0 |
| Occasional | 1 |
| Daily once | 2 |

| | |
|--|----------|
| Constant | 3 |
| 13. Sadana (fatigue) | |
| No fatigue | 0 |
| Little fatigue in doing hard work | 1 |
| Moderate fatigue in doing routine work | 2 |
| Excessive fatigue in doing routine work | 3 |
| Excessive fatigue even in doing little work | 4 |

| | |
|--|----------|
| 14. Trishana (thirst) | |
| Normal feeling of thirst | 0 |
| Frequent feeling of thirst, but quench with normal amount of liquids | 1 |
| Satisfactory quench after increased intake of fluids but no awakening during nights | 2 |
| Satisfactory quench after increased intake of fluids with regular awakening during nights | 3 |
| No quench after heavy intake of fluids | 4 |

A) The Paired 't' test is applied to the statistical data for evaluating the difference in the B.T. & A.T. scores of subjective parameters.

The obtained results were interpreted as –

| | |
|--------------------|-----------|
| Non-significant | p > 0.05 |
| Significant | p < 0.05 |
| Highly significant | p < 0.001 |

Result & observation:

After completion of therapy, it showed highly significant results in the signs and symptoms like *Panduta*, *Daarbalya*, *Parshva Shiro-ruka*, *Kopana* and *Sadana* where significant improvement found in *Rukshata*, *Ayasan Swasa*, *Pindikodweshtana*, *Nidraluta*, *Gaurava*, *Aasya Vairasya*, *Bhrama*, *Jwara* and *Trishana*. (Table: 2). On hematological value *Vidangadi Loha* provided highly significant results in Hb %, RBC, TLC and PCV (Table: 3). Overall effect of the therapy shows that 87.5% patients Improved, while 6.25% patients had Markedly and Mildly Improved in the disease (Table :4).

Maximum patients i.e. 50.00% were belong to 16 – 30 years age group, 100% were female, Hindu 88.89%, 55.56% Married, 66.67% Housewives, 27.78% Graduate, 44.44% from Lower middle class. Elaborated dietetic disclosed that maxi-

mum number (72.22%) patients were taking vegetarian diet, *Lavana Rasa Sevana* (use of salty taste) (77.78%) *Katu Rasa Sevana* (use of acrid taste) (77.78%), and having *Avara Kshudha* in 50.00%, *Vishmagni* in 77.78%, Irregular Bowel Habit in 55.56%.

Analysis of the *Dosha's* involvement shows that 72.22% patients taking *Pitaja Aaharaja Nidana* and *Pitaja Viharaja Nidana*, 94.44% patients were found with *Vataja Pandu*, 100% *Rasa Dushya*, 100% *Rasavaha Strotasa* involvement.

DISCUSSION:

Pandu Roga is more appear in 16-30 yrs. younger age group patients who are prone to mental stress, excessive exercises, irregularity in diet and improper *Vihara* (*Atapa Sevana*, *Ratrijagarana* etc.) due to their professional responsibilities. The prevalence of *Pandu* was found to be more in females. This can be due to insufficient

dietary habits, social negligence, unawareness and menstrual cause. The WHO report also shows that worldwide sex incidence is more in females (41.8% pregnant and 30.2% non-pregnant females)².

Maximum number of patients was vegetarian and like *Lavana Rasa*, followed by *Katu Rasa*. According to classics, excessive use these *Rasa* causes *Pitta Prakopa* (vitiating of *Pitta*)³. Maximum numbers of patient have *Mandagni*. The hampered *Agni* ultimately leads to *Agnimandya*, which leads to *Dhatvagnimandya*. Maximum patients were affected with *Chinta* (Anxiety), *Krodha* and “*Chintyanam Cha Atichintanat*” is a cause of *Rasavaha Srotasdushti*⁴.

Probable mode of action Vidangadi Loha

Majority of drugs have *Katu Rasa*, *Laghu*, *Ruksha*, *Tikshna*, *Ushna Guna* which have *Deepan Pachana*, *Shodhana* property and it clears obstructed *Srotasa*. These all properties assist in *Samprapti Vighatana* of *Pandu Roga*. *Daruharidra*, *Pippali* and *Maricha* are content of *Vidangadi Loha*, having *Deepana*, *Yakrituttejaka*, *Pittasaraka* properties. *Yakrita* is a *Moola* of *Raktavaha Srotasa* in *Pandu Alparaktata* is found. *Yakrituttejaka* property initiates *Yakrita* to make good quantity and quality of *Rakta Dhatu*⁵. *Pippali* having *Deepana*, *Rasayan* and *Panduroganuta* properties⁶.

Vidanga have *Krimighna* property which checks intestinal worm infestation. *Vidanga* is *Tikshana*, *Ushana*, *Agni Vardhaka*, *Krimihara*. Iron is the best *Rasayana*⁷.

By combine action of all these drugs improves *Jatharagni* as well as *Dhatwagni*. After this quality and quantity of *Rasa* and *Rakta Dhatu* improves. Due to *Srotovishodhana* property *Srotosanga* is

decreased and *Dhatu* again nourish all parts of body.

CONCLUSION

Pandu is not Anaemia but Anaemia comes under *Pandu* so many disease comes under *Pandu* like Anaemia, Jaundice etc. According to *Ayurveda* Blood is mixed form of *Rasa* and *Rakta Dhatu*. In Anaemia percentage of Hb or Number of RBCs is decreased in Blood. But many symptoms of *Pandu* and Anaemia are common like *Panduta-pallor*, *Daurbalya* – Tiredness, *Nidraluta*- Lethargy etc.

Agni is the prime force for the sustenance of all biological systems/living being. When it get affected due to *Nidan Sevana* disease is occur. There is an *Agni* in *Rasa Dhatu*, when it gets vitiating with the *Dosha* mainly by *Vata* and *Kapha*, *Dhatwagnimandya* takes place at the level of *Rasa Dhatu*. *Rakta Dhatu* is not fully formed, it is incompletely formed due to qualitative and quantitative deficiency which has got the features of *Vata* and *Kapha* impregnated with that.

Most of the drugs are having *Dipana*, *Pachana* and *Rasayana* properties so they improve digestive power.

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Table:1 Contents of Vidangadi Loha:

| Sr.no | Drug | Latin Name | Prayojaya Anga | Part |
|-------|-------------|----------------------|----------------|------|
| 1. | Vidanga | Embelia ribes | Phala | 1 |
| 2. | Musta | Cyperus royundus | Kanda | 1 |
| 3. | Amalaki | Emblica officinalis | Phala | 1 |
| 4. | Bibhitaka | Terminalia bellirica | Phala | 1 |
| 5. | Haritaki | Terminalia chebula | Phala | 1 |
| 6. | Shunthi | Zingiber officinale | Kanda | 1 |
| 7. | Maricha | Piper nigrum | Phala | 1 |
| 8. | Pippli | Piper longum | Phala | 1 |
| 9. | Pippalimula | Piper longum | Mula | 1 |
| 10. | Chavya | Piper retrofractum | Mula | 1 |
| 11. | Chitraka | Plumbago zeylanica | Mulatwaka | 1 |
| 12. | Devdaru | Cedrus deodara | Kandasara | 1 |
| 13. | Loha bhasma | Ferrosoferric oxide | - | 12 |

Table: 2 Effect on clinical features of Vidangadi Loha

| Features | N | Mean | | % Relief | X | S.D.± | S.E.± | ‘t’ | P |
|---------------------------|----|------|------|----------|------|-------|-------|------|--------|
| | | BT | AT | | | | | | |
| <i>Panduta</i> | 16 | 1.69 | 1.13 | 31.25 | 0.56 | 0.51 | 0.13 | 4.39 | <0.001 |
| <i>Daurbalya</i> | 16 | 2.00 | 1.25 | 37.50 | 0.75 | 0.45 | 0.11 | 6.71 | <0.001 |
| <i>Rukshata</i> | 07 | 1.29 | 0.71 | 42.86 | 0.57 | 0.53 | 0.20 | 2.83 | 0.03 |
| <i>Ayasen Swasa</i> | 11 | 1.91 | 1.27 | 39.39 | 0.64 | 0.50 | 0.15 | 4.18 | 0.002 |
| <i>Pindikodweshтана</i> | 11 | 1.64 | 1.09 | 36.36 | 0.55 | 0.52 | 0.16 | 3.46 | 0.006 |
| <i>Nidraluta</i> | 07 | 1.43 | 0.71 | 50.00 | 0.71 | 0.49 | 0.18 | 3.87 | 0.008 |
| <i>Gaurava</i> | 11 | 1.55 | 1.00 | 36.36 | 0.55 | 0.52 | 0.16 | 3.46 | 0.006 |
| <i>Parshva shiro-Ruka</i> | 14 | 1.79 | 1.14 | 39.29 | 0.64 | 0.50 | 0.13 | 4.84 | <0.001 |
| <i>Aasya Vairasya</i> | 11 | 1.91 | 1.27 | 36.36 | 0.64 | 0.50 | 0.15 | 4.18 | 0.002 |
| <i>Kopana</i> | 16 | 1.86 | 1.13 | 40.63 | 0.75 | 0.58 | 0.14 | 5.20 | <0.001 |
| <i>Bhrama</i> | 11 | 1.73 | 1.09 | 40.91 | 0.64 | 0.50 | 0.15 | 4.18 | 0.002 |
| <i>Jwara</i> | 06 | 1.50 | 1.00 | 33.33 | 0.50 | 0.55 | 0.22 | 2.24 | 0.07 |
| <i>Sadana</i> | 12 | 1.92 | 1.08 | 44.44 | 0.83 | 0.39 | 0.11 | 7.42 | <0.001 |

| | | | | | | | | | |
|----------------|----|------|------|-------|------|------|------|------|-------|
| Trishna | 09 | 1.22 | 0.78 | 38.84 | 0.44 | 0.53 | 0.18 | 2.53 | 0.035 |
|----------------|----|------|------|-------|------|------|------|------|-------|

BT: Before treatment, AT: After treatment

Table: 3 Effect of therapy on Hematological Investigation

| Lab. Findings (n=15) | Mean score | | % of Relief | X | S.D.± | S.E.± | 't' | P |
|--------------------------------|------------|---------|-------------|---------|---------|--------|------|--------|
| | B.T. | A.T. | | | | | | |
| Hb g/dl | 9.23 | 9.76 | 5.72 | 0.53 | 0.26 | 0.07 | 8.17 | <0.001 |
| RBC(10^6 /mm ³) | 3.54 | 3.66 | 3.36 | 0.12 | 0.10 | 0.03 | 4.63 | <0.001 |
| TLC(/mm ³) | 7418.75 | 6354.38 | 12.17 | 1064.38 | 1029.58 | 257.40 | 4.14 | <0.001 |
| PCV (%) | 28.59 | 30.51 | 6.50 | 1.82 | 1.28 | 0.32 | 5.67 | <0.001 |
| MCV(fl) | 81.15 | 83.54 | 3.10 | 2.39 | 3.58 | 0.90 | 2.67 | 0.017 |
| MCH(pg) | 26.31 | 26.84 | 1.17 | 0.54 | 1.00 | 0.25 | 2.16 | 0.04 |
| MCHC(g/dL) | 32.55 | 32.20 | 1.74 | 0.35 | 1.56 | 0.39 | 0.90 | 0.384 |
| ESR(mm) | 23.88 | 18.31 | 4.56 | 5.56 | 13.52 | 3.38 | 1.65 | 0.120 |

Hb%: Hemoglobin %, RBC: Red blood cells, PCV: Packed cell volume, MCV: Mean corpuscular volume; MCH: Mean corpuscular hemoglobin, MCHC: Mean corpuscular hemoglobin concentration, ESR: Erythrocyte sedimentation rate

Table- 4: OVERALL EFFECT OF THERAPY IN 16 PATIENTS OF PANDU ROGA

| Percentage of Relief | Effects | Group B | |
|----------------------|--------------------|-----------------|------|
| | | No. of Patients | % |
| 76-100% | Complete remission | 00 | 00 |
| 51% - 75% | Marked improvement | 01 | 6.25 |
| 26% - 50% | Improved | 14 | 87.5 |
| 0% - 25% | Mild improvement | 01 | 6.25 |
| 0% | No improvement | 00 | 00 |

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