www.ayurpharm.com
ISSN: 2278-4772

Ayurpharm Int J Ayur Alli Sci., Vol. 7, No. 7 (2018) Pages 109 – 115

Research Article

EFFECT OF DARVYADI LEHYA IN PANDU W.S.R TO IRON DEFICIENCY ANEMIA – A CLINICAL TRAIL

Deepali Swami[1]*, Shripathi Acharya[2]

1. *PG Scholar, Dept of Kayachikitsa, Muniyal Institute of Ayurveda Medical Sciences, Manipal, Karnataka, India.*
2. *Head and Professor, Dept of Kayachikitsa, Muniyal Institute of Ayurveda Medical Sciences, Manipal,Karnataka, India.*

Received: 13-06-2018; Revised: 22-07-2018; Accepted: 28-07-2018

Abstract

Ayurveda classics have always emphasized the need of advancements in the science to keep pace with the need of time. The pledged purpose of Ayurveda as a medical system is to ensure a healthier and long life to humanity. In the backdrop of the resurgence of Ayurveda as an alternative or even an ultimate anchor of the psychosomatic and lifestyle related diseases, the time is ripe enough to seriously take up productive researches in such disorders where Ayurveda can often better hand than any other medical science. Darvyadi lehya is explained in the context of Pandu Roga in charak samhita, in which trikatu is the major ingredient along with ingredients like loharaja (bhasma). In the present study a clinical trial was carried out to prove the efficacy of Darvyadi lehya in pandu (Iron deficiency anemia). The study was designed as Single blind clinical study with pre-test and post-test design. 20 clinically diagnosed patients of Pandu roga were selected based on inclusion criteria. Selected patients were Darvyadi Lehya in a dose of 6g once daily with equal Madhu and half Ghritha for 30 days. The data was graded based on assessment criteria and was analysed statistically. Outcome of the treatment after 30 days was statistically significant in the remission of the symptoms of Pandu in most of the symptom score of various subjective and objective parameters. Overall it showed statistically significant result.

Keywords: Darvyadi Lehya; Iron Deficiency Anaemia; Pandu

***Address for correspondence:**
Dr. Deepali Swami,
PG Scholar,
Dept of Kayachikitsa,
Muniyal Institute of Ayurveda Medical Sciences,
Manipal, Karnataka, India – 576 104
E-mail: deepaliswami.swami@gmail.com

Cite This Article

Deepali Swami, Shripathi Acharya. Effect of Darvyadi lehya in Pandu W.S.R. to Iron deficiency Anemia – A clinical trail. Ayurpharm Int J Ayur Alli Sci. 2018;7(7):109-115.

www.ayurpharm.com
ISSN: 2278-4772

Ayurpharm Int J Ayur Alli Sci., Vol. 7, No. 7 (2018) Pages 109 – 115

INTRODUCTION

Pandu may be correlated with anemia in modern medicine. Anemia is defined as the concentration of hemoglobin in blood which is below the lower limit of the normal range for the age and sex of individual. A disease is said to be burning crisis of the society, in two ways:

(1) Firstly, when it over grows in quantity i.e. a number of patients found with it increases to considerable amount.

(2) Secondly, when it harms the moral of the society. i.e. it creates a danger to psychological considerations of the people at large.

The disease Pandu does fit to both the criteria, as it is increasing at an alarming rate thus affecting a large number. Anemia has potential consequences i.e., it reduces the work capacity of individual and entire population and bringing serious economic consequences and obstacles to national development. In the last two decades, the importance of Anemia as a public health problem has been increasingly recognized by health authorities and policy makers. This is reflected in the goals on the reduction of Anemia endorsed by Health Authorities.

The health consequences are silent but destructive, invisibly eroding the development potential of individuals, societies and national economies. This need not be so. We not only know the causes; we also have solutions that are both inexpensive and effective. Because of their close links, nutritional deficiency and Anemia should be tackled simultaneously using a multi-factorial and multi-sectorial approach. It should also be modified to local conditions and taken into account Anemia's specific aetiology and the population groups affected.

Because Anemia drains the life and vitality out of development, we have both the means and potential to achieve widespread improvement.

Amongst the nutrition deficiency, the most common is Iron Deficiency.

Ayurveda classics have always emphasized the need of advancements in the science to keep pace with the need of time.

References regarding the nidana (cause), lakshana (symptoms), types of pandu and chikitsa (treatment) of the Pandu roga along with certain yogas are found in most of the ayurvedic texts.[1][2][3][4][5][6][7][8][9][10]

Darvyadi lehya is explained in the context of Pandu Roga in charaka samhita, in which trikatu is the major ingredient along with ingredients like loharaja (bhasma). Darvyadi lehya is a compound herbo-mineral formulation aptly utilised in the treatment of Panduroga and is in practice too.[11]

MATERIAL AND METHODS

Source of data collection

Drugs

Ingredients was procured from an authentic vendor, and approved by Dravyaguna expert from Muniyal institute of Ayurveda Medical Sciences (MIAMS), Manipal.

Patients

20 patients fulfilling the inclusion criteria were selected from OPD and IPD of Muniyal Institute of Ayurveda Medical Sciences and Hospital, Manipal and also from referral sources and special camps conducted for the purpose. A special proforma was prepared with all points of history taking, signs and symptoms of Pandu and the selected patients were assessed accordingly.

www.ayurpharm.com
ISSN: 2278-4772
Ayurpharm Int J Ayur Alli Sci., Vol. 7, No. 7 (2018) Pages 109 – 115

Inclusion criteria

1) Patients with Hb% within the range of 7 to 11 g/dl
2) Patients of either sex.
3) Patients of 16 – 60 years of age.

Exclusion criteria

1) Patients with history of other systemic diseases like diabetes mellitus and hypertension.
2) Patients with history of congenital disorders related with haemopoetic system like sickle cell anemia, leukemia, haemophilia.
3) Patients suffering with any infectious diseases like malaria.
4) Patients suffering from disorder associated with gastro intestinal bleeding
5) Pregnant ladies.

Study design

Single blind randomized clinical study with pre-test and post-test design where in a minimum of 20 patients diagnosed with Pandu was included in this study. The diagnosis of Anaemia was made based on haemoglobin % of the individual as well as the peripheral blood film. Investigations, subjective and objective parameters was scored before and after treatment on the basis of standard methods and was analysed statistically using paired 't' test and unpaired 't' test. Darvyadi lehya 6 g with equal madhu and half ghrita once daily after breakfast for 30 days was administered.

Assessment criteria

The objective and subjective parameters was assessed before and after the treatment that is on 1st day and 30th day with the scoring pattern. (Table 1)

The laboratory investigation was carried out before and after treatment.

Subjective parameters

Aarohanaayasa, Hridrava, Panduta, Agnimandya, Angamarda, Shiroruja, Rukshangata, Alasya, Shrama, Dourbalya.

Objective parameters

Hb level ranging from 7.0 - 11 g/dl and microcytic or anisocytic RBC blood film.

Overall assessment criteria

0 % - 25 % Symptoms relieved = No Relief.
26 % - 50 % Symptoms relieved = Mild Relief.
51 % - 75 % Symptoms relieved = Moderate Relief.
Above 76 % Symptoms relieved = Marked Relief.

RESULTS

Aarohanyasa

The mean score of Aarohanyasa was 1.8 before treatment which reduced upto 0.85 after treatment with 52.77% relief, which is statistically highly significant (P<0.0001).

Hriddrava

The mean score of Hriddrava was 0.6 before treatment which reduced upto 0.1 after treatment with 83.33% relief, which is statistically significant (P=0.0003).

Pandutha

The mean score of Pandutha was 1.0 before treatment which reduced upto 0.4 after treatment with 60% relief, which is statistically highly significant (P<0.0001).

Shiroruja

The mean score of Shiroruja was 0.5 before treatment which reduced upto 0.1 after treatment with 80% relief, which is statistically highly significant (P=0.0165).

www.ayurpharm.com
ISSN: 2278-4772
Ayurpharm Int J Ayur Alli Sci., Vol. 7, No. 7 (2018) Pages 109 – 115

Table 1: Grading of the parameters

Sl. No.	Signs and symptoms	Parameters	Score
1	Aarohanayasa	Absent	0
		Felt at climbing 20-30 steps	1
		Felt at climbing 10 steps	2
		Felt within climbing 10 steps	3
2	Hridrava (palpitations)	Absent	0
		Felt during work	1
		Felt at rest	2
		Felt throughout the day	3
3	Panduta of nakha, netra	Absent	0
		Present	1
4	Agnimandya	Absent	0
		Observed for few days in a week	1
		Observed for many days in a week	2
		Observed for more than a week	3
5	Angamarda	Absent	0
		Not affecting normal routine	1
		Affecting normal routine	2
		Activity reduced	3
6	Shiroruja	Absent	0
		Not affecting daily activities	1
		Affecting normal activities	2
		Activity reduced	3
7	Rukshangata	Absent	0
		Visible on slight skin scratch	1
		Visible at marked skin scratch	2
		Roughness observed without scratch	3
8	Alasya	Absent	0
		Felt sometimes but not often	1
		Seen often for short duration	2
		Seen continuous	3
9	Shrama	No fatigue	0
		Fatigue not affecting daily activities	1
		Fatigue affecting daily activities	2
		Activities reduced	3
10	Dourbalya	Absent	0
		Not affecting daily activities	1
		Affecting daily activities	2
		Felt continuous throughout	3

Agnimandya

The mean score of Agnimandya was 0.85 before treatment which reduced upto 0.25 after treatment with 70.58% relief, which is statistically highly significant (P<0.0001).

Angamarda

The mean score of Angamarda was 1.3 before treatment which reduced upto 0.5 after treatment with 61.53% relief, which is statistically significant (P<0.0001).

Rukshangata

The mean score of Rukshangata was 1.25 before treatment which reduced upto 0.45 after treatment with 64% relief, which is statistically highly significant (P<0.0001).

Alasya

The mean score of Alasya was 1.8 before treatment which reduced upto 0.9 after treatment with 50% relief, which is statistically highly significant (P<0.0001).

www.ayurpharm.com
ISSN: 2278-4772
Ayurpharm Int J Ayur Alli Sci., Vol. 7, No. 7 (2018) Pages 109 – 115

Table 2: Results

Parameters	Mean		% of relief	MD ± S.E	T value	P value
	BT	AT				
Aarohanayasa	1.8	0.85	52.77	0.95 ± 0.0500	19	<0.0001
Hriddrava	0.6	0.1	83.33	0.5 ± 0.1147	4.359	0.0003
Panduta	1.0	0.4	60	0.6 ± 0.1124	5.339	<0.0001
Shiroruja	0.5	0.1	80	0.4 ± 0.1522	2.629	0.0165
Agnimandya	0.85	0.25	70.58	0.6 ± 0.1124	5.339	<0.0001
Angamarda	1.3	0.5	61.53	0.8 ± 0.1170	6.839	<0.0001
Rukshangata	1.25	0.45	64	0.8 ± 0.1170	6.839	<0.0001
Alasya	1.8	0.9	50	0.9 ± 0.1235	7.285	<0.0001
Shrama	1.4	0.55	60.71	0.85 ± 0.1094	7.768	<0.0001
Dourbalya	1.55	0.75	51.61	0.8 ± 0.09177	8.718	<0.0001
Hemoglobin	9.41	10.605	12.69	1.195±0.05688	21.009	<0.0001

Shrama

The mean score of Shrama was 1.4 before treatment which reduced upto 0.55 after treatment with 60.71% relief, which is statistically highly significant (P<0.0001).

Dourbalya

The mean score of Dourbalya was 1.55 before treatment which reduced upto 0.75 after treatment with 51.61% relief, which is statistically highly significant (P<0.0001).

Hemoglobin

The mean hemoglobin before treatment was 9.41g/dl which increased upto 10.605 g/dl after treatment with 12.69% relief, which is statistically highly significant (P<0.0001). (Table 2)

DISCUSSION

Discussions on symptoms were the mean score of Aarohanayasa was 1.8 before treatment which reduced upto 0.85 after treatment with 52.77% relief. The mean score of Hriddrava was 0.6 before treatment which reduced upto 0.1 after treatment with 83.33% relief. The mean score of Panduta was 1.0 before treatment which reduced upto 0.4 after treatment with 60% relief.

The mean score of Shiroruja was 0.5 before treatment which reduced upto 0.1 after treatment with 80% relief. The mean score of Agnimandya was 0.85 before treatment which reduced upto 0.25 after treatment with 70.58% relief. The mean score of Angamarda was 1.3 before treatment which reduced upto 0.5 after treatment with 61.53% relief. The mean score of Rukshangata was 1.25 before treatment which reduced upto 0.45 after treatment with 64% relief.

The mean score of Alasya was 1.8 before treatment which reduced upto 0.9 after treatment with 50% relief. The mean score of Shrama was 1.4 before treatment which reduced upto 0.55 after treatment with 60.71% relief.

The mean score of Dourbalya was 1.55 before treatment which reduced upto 0.75 after treatment with 51.61% relief. The mean hemoglobin before treatment was 9.41 g/dl which increased uptp 10.605g/dl after treatment with 12.69% relief.

13 individuals showed moderate relief, 4 showed mild relief, 2 showed marked relief while 1 showed no relief. The reason for minor improvement was because of the occupation of certain patients, they were not able to follow food and behavioural restrictions as advised.

www.ayurpharm.com
ISSN: 2278-4772
Ayurpharm Int J Ayur Alli Sci., Vol. 7, No. 7 (2018) Pages 109 – 115

Table 3: Ingredients of Darvyadi Lehya

Drug	Botanical name	Family name	Rasa	Guna	Virya	Vipaka	Doshahara action
Daruharidra	*Berberis aristata*	Berberidaceae	Tikta	Ruksha	ushna	Katu	Deepana, rakta shodhaka, Yakrituttejaka
Hareetaki	*Terminalia chebula*	Combretaceae	Kashaya, Katu, Tikta, Amla, Madhura	Laghu, Ruksha	Ushna	Madhura	
Vibhitaki	*Terminalia belerica*	Combretaceae	Kashaya	Ruksha, Laghu	Ushna	Madhura	Deepana, Pachana, Krimighna, Pandughna, Raktadoshahara, Rasayana
Amalaki	*Emblica officinalis*	Euphorbiaceae	Amla, Kashaya, Madhura, Tikta, Katu	Ruksha, Laghu	Sheeta	Madhura	
Shunti	*Zingiber officinale*	Zingiberaceae	Katu	Laghu, Snigdha	Ushna	Madhura	
Marica	*Piper nigrum*	Piperaceae	Katu, Tikta	Laghu, Ruksha, Tikta	Ushna	Katu	Deepana, Pachana, Anulomana Srotoshodana
Pippali	*Piper longum*	Piperaceae	Katu	Laghu, Ruksha	Ushna	Katu	
Vidanga	*Embelia ribes*	Myrsinaceae	Katu, Tikta	Ruksha, Laghu, Tikshana	Ushna	Katu	Krimighna, Deepana, Pachana, Raktashodhaka
Lauha bhasma		Fe_2O_3, FeO, Silica					Deepana, Rasayana, Raktavriddhikara

Action of Darvyadi lehya

Daruharidra, the main content of darvyadi lehya is deepana (appetizer), raktashodhaka (blood purifier), yakrituttejaka (good for liver). Deepana quality helps to improve mandagni (poor digestive fire) seen in people suffering from Pandu. Yakrit is said to be the moola of raktavaha srotas.

In Pandu, alparaktata (less blood) is found; the yakrituttejaka property initiates yakrit to produce good quality and quantity of rakta dhatu. Trikatu is deepana, pachana (digestive), srotoshodhana (cleanse the channels), which leads to proper metabolism and formation of proper dhatus.

www.ayurpharm.com
ISSN: 2278-4772
Ayurpharm Int J Ayur Alli Sci., Vol. 7, No. 7 (2018) Pages 109 – 115

Triphala is deepana, pachana, krimighna (anthelmintic), pandughna (cures anemia), raktadoshahara (good for blood), rasayana (rejuvenative). It helps in RBC production, also has anulomana (carminative) properties which counteract the constipative effect of Iron compounds. Being a rasayana it improves general health, immunity and relieves generalized weakness. Vidanga is also having krimighna, deepana, pachana, raktashodhaka properties.

Lauha bhasma which is iron supplement and has deepana property leads to proper metabolism and dhatu poshana. According to rasa ratna sammuchaya, lauha is rasayana and has raktavriddhikara properties. Thus, it improves the quality and quantity of Rakta.

The herbal drugs present may have increased the bio-availability of lauha bhasma as it contains iron in less favourable ferric form. Madhu having yogavahi properties, srotoshodhana action and ghrita having pittahara, rasavardhaka and deepana properties, facilitates dhatu poshana and rakta formation. (Table 3)

CONCLUSION

Iron deficiency anemia can be studied under the broad umbrella of pandu roga. Pandu roga is pitta pradhana vyadhi, pitta is responsible for the normal color of the body, when it gets vitiated, loss of complexion or pandutha occurs. To acquire the optimum effect, the drug Darvyadi lehya should be continued for a minimum period of 2-3 months. It can therefore be concluded that there is significant difference in the treatment with Darvyadi Lehya. It is recommended that the study should be carried out in large number of patients to evaluate and analyse the result. Plasma transferring, Serum Iron, TIBC, Serum Ferritin, red cell protoporphyrin and bone marrow smears are needed for accuracy of diagnosis and treatment assessing efficacy. The duration of therapy should be continuing minimum upto 2-3 months to obtain further better results.

REFERENCES

1. Charaka. Charaka Samhita. Harish Chandra Singh Kushwaha, editor. 2nd ed. Varanasi: Chaukhamba Orientalia; 2012.p.146.
2. Sushruta. Sushruta Samhita, Vol. 2. Kaviraja Ambika Datta Shastri, editor. 1st ed. Varanasi: Chaukhamba Sanskrit sansthan; 2005. p.285.
3. Vagbhata. Ashtanga Hridaya, Vol. 2. Shrikanta Murthy KR, editor. Varanasi: Chaukhamba Krishnadas Academy; 2012. p.125.
4. Harita. Harita Samhita. Jaimini Pandey, editor. Varanasi: Chaukhamba Vishwabharati; 2010. p.272.
5. Madhavakara. Madhava nidana. Shrikanta Murthy KR, editor. Varanasi: Chaukhamba Orientalia; 2005. p.35.
6. Chakrapani. Chakradatta. Sharma PV, editor. 1st ed. Varanasi: Chaukhamba Orientalia; 2007. p.106.
7. Chakrapani. Chakradatta. Sharma PV, editor. 1st ed. Varanasi: Chaukhamba Orientalia; 2007. p.106.
8. Kashyapa. Kashyapa Samhita. Varanasi: Chaukhamba Sanskrit Series; 2009. p.85.
9. Sharangadhara. Sharangadhara Samhita. Himasagar Chandra Murthy P, editor. Varanasi: Chaukhamba Sanskrit Series; 2013. p.392.
10. Indradev Tripathi, Daya Shankar Tripathi, editors. Yogaratnakara. Varanasi: Chaukhamba Krishnadas Academy; 2011. p.265.
11. Charaka. Charaka Samhita. Brahmanand Tripathi, editor. Chaukhamba Publications; p.607.

Source of Support: Nil Conflict of Interest: None Declared