



Case Study

EFFECT OF AMALAKYAVALEHA IN THE MANAGEMENT OF PANDU ROGA W.S.R. TO IRON DEFICIENCY ANEMIA IN CHILDREN

Bimal Shah^{1*}, Rakesh Sharma²

*1PG Scholar, ²Professor and Head, PG Department of Kaumarbhritya, RGGPG Ayurvedic College & Hospital, Paprola, HP, India.

Article info

Article History:

Received: 28-05-2024

Accepted: 18-06-2024

Published: 10-07-2024

KEYWORDS:

Anemia, Pandu, Pathya Palan, Daurbalya, Aruchi, Bhrama.


ABSTRACT

Anemia is a prevalent issue among children, characterized by a deficiency in red blood cells or hemoglobin. The primary causes, such as iron deficiency is the most common nutritional deficiency anemia, are often straightforward to address. In Ayurveda, it is correlated to *Pandu Roga* based on similarities in clinical features and offers various herbal remedies and dietary guidelines, known as *Pathya Palan*, specifically targeting anemia. It means the disease condition in which the skin of the person is discolored like *Haridra* or greenish tinge and other peculiar signs and symptoms include *Hridayaspandanam*, *Roukshyam*, *Swedabhava*, *Shrama* and its consequences. It is not a disease entity as such but is the manifestation of different diseases. There is pallor on the skin due to a deficiency of *Rakta Dhatu* (blood tissue) either in the form of hemoglobin and or red blood cells (RBCs). This study aimed to evaluate the effectiveness of *Amalakyavleha* and *Pathya Palan* in managing anemia. The study was conducted at the OPD of Balroga, Rajiv Gandhi Ayurvedic College and Hospital Paprola Dist. Kangra HP. The method involved assessing patients before and after treatment with a 30-day follow-up period. The results indicated that *Amalakyavaleha* and *Pathya Palan* were indeed effective in managing anemia in children.

INTRODUCTION

Pandu Roga literally means a diseased condition manifested with pallor or paleness or yellowish white discoloration of the body and associated with *Raktalpata* and *Panduta* [1] of the body. In Ayurveda, it is associated with “anemia” as defined by *Acharya Maddhavkar* in the 8th chapter of *Madhav Nidan*. [2] This comparison highlights the traditional understanding and classification of anemia in Ayurvedic medicine. Ancient Ayurvedic scholars like *Acharya Charak*, *Acharya Sushruta*, *Acharya Vagbhat*, *Acharya Madhavkar*, and *Acharya Sharngadhar* have extensively described the causative factors, pathogenesis, types, and treatments. In their respective texts- such as *Acharya Charak's* 16th chapter of *Chikitsa Sthana*, [3] *Acharya Sushruta's* 44th

chapter of *Uttar Sthana*, [4,5] *Acharya Vagbhat's* 13th and 16th chapters of *Nidan Sthana* [6] and *Chikitsa Sthana*, *Yogratnakar's* outline of five types of *Pandu roga*, [7] and *Acharya Kashyap's* description of pre-symptoms in *Vedanasthana* [8] - they provide detailed insights into this condition. The classification varies among these scholars, with *Acharya Sushruta* mentioning eight types, [9] while others like *Acharya Charak*, *Acharya Vagbhat*, *Acharya Madhavkar*, and *Acharya Sharngadhar* described different types based on their observations and understanding. [10] Anemia is derived from the Greek term which means bloodlessness, and is defined as decreased red blood cell (RBC) volume (reflected by RBC count and Hb concentration per RBC and Hematocrit) or reduced Hb concentration below the age-appropriate normal values. [11] WHO defines “Anemia as a condition in which the number of RBCs is insufficient to meet the body’s physiologic needs”. Iron deficiency anemia is the most widespread nutritional deficiency and occur primarily intake of iron or a diet having low iron content. It is a state in which reduction of iron stores precedes and is a more severe condition in which low

Access this article online	
Quick Response Code	
	https://doi.org/10.47070/ayushdhara.v11i3.1596
	Published by Mahadev Publications (Regd.) publication licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0)

levels of iron are associated with and the presence of microcytic hypochromic red cells in the circulation, the relative number of which reflects the severity of the iron deficiency. This reduction in hemoglobin levels affects the blood's ability to carry oxygen, although noticeable clinical symptoms typically only appear when the level drops below 7-8g/dl. At this point, pallor becomes evident in the mucous membranes.^[12] It is often identified through abnormal results in screening laboratory tests, as patients usually do not exhibit advanced symptoms until later stages. According to the third National Family Health Survey (NFHS3), a significant percentage of Indian children, particularly in rural areas, suffer with 79% affected overall. The causes vary depending on age and can be a multifactorial disease. The onset of symptoms correlates with the rate at which develops; rapid development, such as in cases of hemorrhage, leads to symptoms manifesting at higher hemoglobin levels. Common early symptoms include lassitude and easy fatigability, while children may also experience anorexia, irritability, and poor school performance. Severe cases may present with dyspnea on exertion, tachycardia, and palpitations.^[13] Treatment in Ayurveda typically includes a holistic approach involving dietary adjustments, herbal remedies, lifestyle modifications, and occasionally, specialized therapies like Panchakarma to rebalance the body and alleviate symptoms.

Case Report

A 12-year-old female patient visited the outpatient Department of Kaumarbhryta, Rajiv Gandhi Ayurvedic College & Hospital Paprola Dist. Kangra HP during October 2023 presented with symptoms of weakness, anorexia, and fatigue since 3 months. The patient has no history. Parents belong to lower-middle socio-economic communities. The patient already consulted too many doctors, and she had been diagnosed with anemia because of hemoglobin level was 8.6 gm%. She had taken medicine continuously for 2 months but she didn't find any relief.

Antenatal History

During the antenatal period, the mother was 23 years old at conception, and the father was 28 years old. The mother diligently attended regular antenatal checkups and adhered to medication schedules. There were no reported instances of infections, diabetes, hypertension, or seizures.

Natal History

The child was delivered by normal vaginal delivery at the 39th week of gestational age with a birth weight of 2.8 kg. No history of neonatal asphyxia, neonatal jaundice, infection, or congenital anomalies. Feeding started after 1 hour.

Postnatal History

No abnormal postnatal history was found.

Family History

All family members are reported to be normal.

Developmental History

All developmental milestones were achieved at the appropriate times.

Medical History

The child received calcium supplements, multivitamin supplements, zinc supplements, etc.

Immunization History

All vaccinations were administered according to the recommended schedule.

Dietary History

The child was exclusively on breastfed until six months of age. Weaning commenced at seven months with foods like boiled potato, fruit juice, banana, etc.

Personal History

Appetite	Reduced
Bowel	Twice/day
Micturition	Normal, 3-4 times/day
Sleep	Disturb

General Examination

The child appears alert, active, well-nourished and has a normal sensorium

Vitals

BP	110/70mm of Hg
HR	88 bpm
RR	24/min
Temperature	98.4°F

Anthropometry

Head circumference	2.52 cm
Chest circumference	3.88 cm
Mid arm circumference (both)	24cm
Mid-thigh circumference (both)	52cm
Height	137 cm
Weight	27kg

General Physical Examination

Consciousness	Conscious
Icterus	Absent
Pallor	Present
Clubbing	Absent
Lymphadenopathy	Absent
Cyanosis	Absent

Eye	Normal
Gait	Normal

S1 S2- heard, no murmurs
HR – 88 bpm

Respiratory System

Chest – B/L Symmetrical, No added sounds
RR – 24/min

Per Abdomen Examination

Soft, non-tender
No prominent veins

Cardio Vascular System

Investigations Done Before or After Treatment

Investigation	BT	AT
Hb%	8.6gm%	10.2gm%
MCV	64	69
MCH	23pg	27pg
MCHC	28gm	34gm
RDW	12.5%	14.5%
Platelets count	270,000	243,000
Total bilirubin	0.7mg/dl	0.7mg/dl
Direct Bilirubin	0.3mg/dl	0.2mg/dl
SGOT	30IU/L	32IU/L
SGPT	34IU/L	32IU/L
Total reticulocyte count	1.2%	1.3%
Serum Ferritin	5.2	38
PBF	Microcytic Hypochromic	Normocytic Normochromic

Diagnosis

Pitta Pradhan Tridoshaj Dushtijanya Pandu Roga (Iron Deficiency Anemia).

Assessment Criteria

Subjective Criteria

S.No.	Symptoms	Grade
1.	Panduta – Twacha (1), Nakha (2), Netra (3), Jihwa (4), Hastapada (5)	
	Absent	0
	Present at one site	1
	Present at two sites	2
	Present at three or more sites	3
2.	Daurbalya (Weakness)	
	Not present	0
	After Moderate work, relieved soon and tolerable	1
	After moderate work, relieved later and tolerable	2
3.	Hridayaspandanam (Palpitation)	
	Not present	0
	On doing routine physical activity	1
4.	Aruchi (Anorexia)	
	On doing strenuous physical activity	2

	Absent	0
	Present	1
5.	Bhrama (Dizziness)	
	No	0
	Mild	1
	Moderate	2
	Severe	3
6.	Ayasaja swasa (Shortness of breath)	
	No	0
	Mild	1
	Moderate	2
	Severe	3
7.	Shirashoola (Headache)	
	No	0
	Mild	1
	Moderate	2
	Severe	3
8.	Pica	
	Not present	0
	Present	1
9.	Disturbed Sleep	
	Not present	0
	Present	1
10.	Pindikodwestana (Calf Muscle Pain)	
	Not Present	0
	Present	1

Treatment Plan

<i>Shaman Chikitsa</i>	Dose
<i>Amalakyavaleha</i>	1 tsf BD with lukewarm milk

Pathya (Diet chart)
Early morning: Pomegranate juice
Breakfast: Chapati with green leafy vegetables + one egg
Lunch: Fruits (pomegranate, raisins), rice, dal, spinach
Dinner: Dal pani, palak, chapatti, milk (1 cup)

Follow up – 1 month
Duration of treatment – 1 month

RESULT

Effect of *Amalakyavaleha* and *Pathya Palan* on Symptoms of Anemia

S.No.	Symptoms	BT	AT (Follow up)
1.	<i>Panduta</i>	1	0
2.	<i>Daurbalya</i>	1	0
3.	<i>Hridayaspandanam</i>	1	0
4.	<i>Aruchi</i>	1	0
5.	<i>Bhrama</i>	1	0
6.	<i>Ayasaja swasa</i>	0	0
7.	<i>Shirashoola</i>	1	0
8.	Pica	0	0
9.	Disturbed Sleep	0	0
10.	<i>Pindikodwestana</i>	1	0

DISCUSSION

Pandu roga is a very common disease that is seen in growing children because they face GIT problems. Due to excessive intake of junk food, children are not able to achieve the original nutrients and ions part from the food. In this case study, the patient got 90% relief from symptoms of Anemia and the hemoglobin level increased from 8.6gm% to 10.2gm%. In Ancient texts (*Charak Samhita, Sushruta Samhita, Ashtang Hridaya* and other classical texts) many varieties of treatment described which are very effective in the management along with *Pathya Palan* is also essential with *Shaman Chikitsa*.

In this study, we gave *Amalakyavaleha*^[14] (which is mentioned in *Yogaratanakar, Panduroga Adhyaya/1-4*) to the patient for 1 month. In this, the majority of ingredients have *Tridoshahara* properties, so it becomes helpful in treating *Tridoshajvyadhi Pandu*. Analysis of the Pharmacodynamic properties of *Amalakyavaleha* shows that the maximum ingredients are *Katu* and *Tikta Rasa* and are predominant in *Laghu Guna*. These *Tikta* and *Katu Rasa* perform *Agnideepana Karma* which increases the metabolism and reduces the formation of *Ama*. These all properties assist in the *Vighatana* of *Pandu Roga*.

Ingredients of *Amalakyavaleha* are *Amlaki, Pippali, Mulethi, Draksha, Aadraka, Vamshalochana, Sharkara, Shahada*. These all have properties like *Deepana, Pachana, Ruchya*, etc. So drug augments *Jatharagni* as well as *Dhatwagni* up to the optimum level and breaks the pathogenesis of *Pandu roga*.

Pippali is said to be an enhancer of the bio-availability of the drug as it increases intestinal absorption and subsequently, absorption of other drugs also may be improved. Therefore, it counteracts poor digestion found in *Panduroga*.

Amalaki which is considered the best *Rasayana* drug in *Ayurvedic* classic, improves general health and

immunity. *Amalaki* having a rich source of vitamin C is helpful for the absorption of Iron.^[15]

Mulethi being *Madhura* about *Rasa* and *Vipaka*, acts to minimize the effect of elevated *Pittadosha*. It shows the action of anti-inflammatory, anti-arthritis and antipyretic.

Draksha having *Snigdha* property, it decrease the unctuous property of *Vatadosha* therefore helpful in production of *Snehanaguna* and diminishes the production of increased *Pittadoshas*.

Aadraka according to *Bhava-Prakash* is one of the good appetizers which diminish the production of *Amadosha* and therefore it enhances *Agnideepana karma*.

Vamslochana is used for *Krimighna, Deepana, Pachana* etc.^[16]

Madhu according to *Charaka Samhita* shows one of the best properties of *Yogavahi* and *Tridosha-Shamaka*. *Madhu* shows the actions of *Chhedana, Sandhana, Ropana, Krimighna*, etc.^[17]

Amalakyavaleha is an iron-rich compound formulation that provides iron in optimum quantity which is primarily desired in the management of *Panduroga*.

CONCLUSION

In this study, the overall effect was found near 90%. *Amalakyavaleha* formulation shows a good therapeutic effect in this study in relation to *Pandu Roga*, helps to improve the hemoglobin level and works as *Rasayana* which also helps in improving the quality of life. No adverse effects of the drug therapy were observed during the study. So, it can be safely administered to children.

REFERENCES

1. Agnivesha, Charaka, Dridhabala, Charaka Samhita, Chikitsa Sthana 16/10, ed. Vd. Yadavaji Trikamaji

- Acharya, Reprint Edition, Varanasi, Chaukhamba Surabharati Prakashan, 2014
2. Brahmanand Tripathi. Madhav Nidanam, Pandu roga, chapter no. 08, Chaukhambha surbharti prakashan Varanasi; Reprint 2007; page no. 312, pp-660.
 3. Brahmanand Tripathi. Ashtang Hridaya, with hindi commentary, Nidan sthana, chapter no. 13, Chaukhambha Sanskrit pratisthan, Delhi; Reprint, Edition-2007, page no. 519, pp-573
 4. Vd. Harish Chanra singh Kushwaha. Charaka Samhita of Agnivesha, Chikitsa sthana, chapter no. 16, Chaukhamba orientelia, Chaukhamba orientelia, Varanasi, Edition – 2019; page no. 422, pp – 1172.
 5. Kaviraj Ambikadutt shastri. Sushruta Samhita, Hindi commentary, Uttar sthana, chapter no.44, Chaukhambha Sanskrit Samsthan. Varanasi, Reprint Edition 2005, page no. 285, pp-536
 6. Brahmanand Tripathi. Astang hridaya, with hindi commentary, Nidan sthana, chapter no. 13, Chaukhambha Sanskrit pratisthan, Delhi; Reprint, Edition 2003; page no. 519, pp- 1295
 7. Vaidya Laxmipati shastri. Yogratnakar with Hindi commentary, Panduroga nidanam, Chaukhambha prakasan, Varanasi, Reprint, Edition-2007, page no. 337, pp-573.
 8. Pandit hemaraja Sharma. Kashyap Samhita, Sutra sthana, Vednaadhyaya, Chapter no. 25, Chaukhambha Sanskrit sansthan Varanasi, Reprint 2005; page no. 35, pp-364
 9. Kaviraj Ambikadutt shastri. Sushruta Samhita, Hindi commentary, Uttar sthana, chapter no. 44, chaukhambha Sanskrit samsthan. Varanasi, Reprint Edition 2005, page no. 286, pp-536
 10. Shailja Srivastava. Sharangdhara Samhita with hindi commentary, Poorvakhanda, chapter no. 07, Chaukhambha orientelia: Varanasi, Reprint Edition 2009, page no. 73, pp-578
 11. Piyush Gupta PG Textbook of Pediatrics Vol 2, 3rd Edition Section 38.3, Page no. 1974.
 12. Robert M.kilegman. Nelson textbook of pediatrics, Delhi: Elsevier, a division of reed Elseveir india private limited sri Pratap udyog, 274, capt. Gaur marg, sriniwaspuri; 18th edition Vol-2: page no. 232-233 pp 1519.
 13. O.P Ghai. Ghai essential Pediatrics, Delhi: CBS publishers & distributors pvt. Ltd; 8th edition revised reprint with correction 2013: page no. 331 pp 719.
 14. Yogratnakar by Vaidya Lakshampati Singh with Vidyotini Hindi Commentary, Panduroga Adhyaya 1/4
 15. Golechha M, Sarangal V, Ojha S, Bhatia J, Arya DS. Anti-inflammatory effect of Emblica officinalis in rodent models of acute and chronic inflammation: Involvement of possible mechanism. Int j Inlfn 2014.2014 178408. [PMC Free article][Pub Med][Google Scholar]
 16. Aapte Vamana Shivarama, Sanskrita Hindi Kosha, Rachana Prakashana Jaipur, Edition 2006, pg.767
 17. Shastri Ambika Dutta, Editor, Ayurveda-Tatva-Sandipika (Hindi Commentary) on Sushruta Samhita, Chaukhambha Sanskrit Sansthana Varanasi, edition 2005, Sutrasthana Chapter 45, Madhuvarga, Verse No. 134, page 181.

Cite this article as:

Bimal Shah, Rakesh Sharma. Effect of Amalakyavaleha in the Management of Pandu Roga w.s.r. to Iron Deficiency Anemia in Children. AYUSHDHARA, 2024;11(3):199-204.

<https://doi.org/10.47070/ayushdhara.v11i3.1596>

Source of support: Nil, Conflict of interest: None Declared

***Address for correspondence**

Dr. Bimal Shah

PG Scholar,

Department of Kaumarbhritya,
R.G.G.P.G. Ayurvedic College and
Hospital, Paprola.

Email: mailtosbimal@gmail.com

Disclaimer: AYUSHDHARA is solely owned by Mahadev Publications - A non-profit publications, dedicated to publish quality research, while every effort has been taken to verify the accuracy of the content published in our Journal. AYUSHDHARA cannot accept any responsibility or liability for the articles content which are published. The views expressed in articles by our contributing authors are not necessarily those of AYUSHDHARA editor or editorial board members.