

Understanding types of Pandu Roga on the basis of common Haematological Parameters - A Comparative Study

Solanki A^{1*}, Kande A², Ojha A³

DOI:10.21760/jaims.10.2.10


^{1*} Archana Solanki, Post Graduate Scholar, Dept of Roga Nidana Evum Vikriti Vigyana, Shri NPA Govt Ayurved College, Raipur, Chhattisgarh, India.

² Aradhana Kande, Lecturer, Dept of Roga Nidana Evum Vikriti Vigyana, Shri NPA Govt Ayurved College, Raipur, Chhattisgarh, India.

³ Aruna Ojha, Prof and HOD, Dept of Kayachikitsa, Shri NPA Govt Ayurved College, Raipur, Chhattisgarh, India.

Considering human lifestyles and routines, the 21st century is unlike any earlier century. People experience a tremendous amount of stress and strain in their day today life, which has a detrimental impact on their quality of life. Additionally, in present time, people tend to eat *Viruddha Aahar* like pizzas, Chinese food, pickle, packed edibles, *gupchup*, burgers, chips etc. which are *Kshara Rasa Pradhan*. It has been noted that in India, not only lower economic group, middle as well as higher economic group also suffer from *Pandu Roga* under different circumstances. *Pandu* is a *Pitta Pradhana* disease, which ultimately affects all *Dhaatus*, especially *Rasa Dhaatu*, and prevents *Rasa* from going through the *Ranjana* or pigmentation process. There is a need to differentiate different types of *Pandu* with haematological parameters. This will be helpful for *Ayurvedic* Physicians and students as the line of treatment is different for every type of *Pandu Roga* in *Ayurveda* Classics. Here in this article an attempt has been made to differentiate types of *Pandu* with the help of Haematological parameters.

Keywords: Pandu, Ranjana, Ayurveda, Rasa, Pitta, Ketki

Corresponding Author	How to Cite this Article	To Browse
Archana Solanki, Post Graduate Scholar, Dept of Roga Nidana Evum Vikriti Vigyana, Shri NPA Govt Ayurved College, Raipur, Chhattisgarh, India. Email: solankiarchi26@gmail.com	Solanki A, Kande A, Ojha A, Understanding types of Pandu Roga on the basis of common Haematological Parameters - A Comparative Study . J Ayu Int Med Sci. 2025;10(2):63-67. Available From https://jaims.in/jaims/article/view/4301/	

Manuscript Received
2025-01-16

Review Round 1
2025-01-25

Review Round 2
2025-02-05

Review Round 3
2025-02-15

Accepted
2025-02-25

Conflict of Interest
None

Funding
Nil

Ethical Approval
Yes

Plagiarism X-checker
11.36

Note



© 2025 by Solanki A, Kande A, Ojha A and Published by Maharshi Charaka Ayurveda Organization. This is an Open Access article licensed under a Creative Commons Attribution 4.0 International License <https://creativecommons.org/licenses/by/4.0/> unported [CC BY 4.0].



Introduction

Ayurveda, the science of life is the earliest known traditional Medical system. Unlike other systems of medicine, *Ayurveda* aims to maintain health and prevent ailments in addition to treating and curing illness.[1] One of the fundamental tenets of *Ayurveda* is the *Dosha*, *Dhaatu* and *Mala*, the basis of the body, which are responsible for all the physiological processes in the body. Vitiating of these initiate pathological processes in the body.[2]

Although various normal and abnormal colours have been mentioned in *Ayurveda*, *Pandu* colour has not been mentioned, which definitely denotes that *Pandu* is a general entity of disease and not just discolouration. The main diagnostic feature of *Pandu Roga* is pallor on the skin. *Vachaspathya* refers *Pandu* as the colour of patient resembles colour of pollen grains of *Ketki* flower (*Pandanus odoratissimus*) which is whitish yellow (pale) in appearance.[3]

Nowadays *Pandu* is a very common disease in the society affecting large number of populations especially in women in their reproductive age and children with major consequences for human health, as well as social and economic development. It is one of the leading causes of maternal mortality and morbidity. While analysing the data, it is found that overall prevalence of anaemia has increased from 74.2% to 79.2%. Anaemia globally affects 1.62 billion people which corresponds to 24.8% of the population.[4] The aim of this study was to evaluate whether different types of *Pandu* can be correlated with Haematological parameters.

Materials and Methods

For study, 60 patients were selected from Shri Khudadad Dungaji Ayurveda Hospital, Raipur (C.G.). A detailed research proforma was prepared and written consent was taken from all the 60 patients.

Inclusion Criteria

- Patient who are willing for the study.
- Patient of either gender between the age group of 18 to 60 years.
- Patient with clinical features of *Pandu* as mentioned in Ayurvedic texts
- Blood sample showing Hb% between 6 gm/ dl to 10 gm/dl.[5] Known cases of Thalassemia & Sickle cell anaemia.

- Pregnant and lactating mothers.

Exclusion Criteria

- Patient who are not willing for the study.
- Patient of age group below 18 years and above 60 years.
- *Mrittika Bhakshan Janya Pandu Roga*.
- Blood sample showing Hb% less than 6 gm/dl.
- Cardiovascular, Renal and Hepatic diseases.
- Tuberculosis, HIV positive patients, Cancer, tumour, Haemorrhoids.

Assessment Criteria

Subjective Criteria[6]

According to Aetiological factors of *Pandu Roga*

1. Do you take *Kshar*, *Amla*, *Lavan*, *Ati Ushna Bhojan* ? (Ex.- Pickle, Chinese food, Packed edibles etc.)
Never - 0, Sometimes - 1, Often - 2, Always - 3
2. Do you suppress *Mala* (stool), *Mutra* (urine) etc. *Vega* ?
Never - 0, Sometimes - 1, Often - 2, Always - 3
3. Do you exercise during indigestion ?
Never - 0, Sometimes - 1, Often - 2, Always - 3
4. Do you take *Viruddha Aahara* ? (Ex.- Chaat, Gupchup, Sandwich, Burger etc.)
Never - 0, Sometimes - 1, Often - 2, Always - 3
5. Do you take *Nishpav*, *Maash*, *Pinyaak* ? (Ex. - Semi, Urad vada)
Never - 0, Sometimes - 1, Often - 2, Always - 3
6. Do you sleep during day time ?
Never - 0, Sometimes - 1, Often - 2, Always - 3
7. Do you have feeling of Fear (Bhaya) ?
Never - 0, Sometimes - 1, Often - 2, Always - 3
8. Do you have feeling of Anger (Krodh) ?
Never - 0, Sometimes - 1, Often - 2, Always - 3
9. Do you have feeling of Anxiety (Chinta) ?
Never - 0, Sometimes - 1, Often - 2, Always - 3
10. Do you have feeling of Sadness/Grief (Shoka) ?
Never - 0, Sometimes - 1, Often - 2, Always - 3
11. Do you use *Til tail* in your diet ?
Never - 0, Sometimes - 1, Often - 2, Always - 3

According to signs and symptoms of Pandu Roga[7]**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. Daurbalyta (Weakness)

Not Present - 0

After heavy work, relieved soon and tolerable- 1

After Moderate work relieved later and tolerable - 2

After little work relieved later - 3

After little work relieved later but beyond tolerance - 4

3. Hridspandanam (Palpitation)

Not Present - 0

After heavy work,relieved soon and tolerable- 1

After Modrate work relieved later and tolerable- 2

After little work relieved later - 3

After little work relieved later but beyond tolerance - 4

Hridaspandanam even in resting condition - 5**4. Bhrama (Vertigo)**

Not Present - 0

After heavy work, relieved soon and tolerable- 1

After Moderate work relieved later and tolerable - 2

After little work relieved later - 3

After little work relieved later but beyond tolerance - 4

Bhrama 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

n 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 tolerable- 1

After Moderate work relieved later and tolerable - 2

After little work relieved later - 3

After little work relieved later but beyond tolerance - 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 (Cramps in calf muscles)**

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

Objective Criteria**CBC** - Hb% - RBC

MCV - MCH

MCHC - HCT or PCV

Peripheral smear

Result**Table 1: Relation between Pandu types and Haematological Parameters**

Pandu type	Investigation	Chi square	P value	Remark
Vataj	Hb	1.098	0.895	NS
	RBC	7.059	0.133	NS
	PCV	2.001	0.736	NS
	MCV	23.194	0.000	HS
	MCH	28.735	0.000	HS
Pittaj	MCHC	36.150	0.000	HS
	Hb	1.098	0.895	NS
	RBC	7.059	0.133	NS
	PCV	2.001	0.736	NS
	MCV	23.194	0.000	HS
Kaphaja	MCH	28.735	0.000	HS
	MCHC	36.150	0.000	HS
	Hb	1.098	0.895	NS
	RBC	7.059	0.133	NS
	PCV	2.001	0.736	NS
	MCV	23.194	0.000	HS
	MCH	28.735	0.000	HS
	MCHC	36.150	0.000	HS
	Hb	1.098	0.895	NS
	RBC	7.059	0.133	NS

Discussion

Following are the observations found after the study

MCV, MCH, MCHC values are lower than normal range in *Vataja* and *Pittaja Pandu* but within normal range in *Kaphaja Pandu*. The reason may be in *Vataja Pandu* due to *Vata Guna* like *Ruksha*, *Sukshma* etc., the nutrients are not absorbed properly and this leads to unhealthy red blood cell production.[8]

Pittaja Pandu - In *Pittaja Pandu*, the main vitiated *Dosha* is *Pitta*, which is related to heat and metabolism. Here lower values can result from conditions such as haemolysis or inflammation, leading to ineffective erythropoiesis.[9]

Kaphaja Pandu - In *Kaphaja Pandu*, which has *Kapha Dosha* predominance, the body has more stable constitution. The body might be able to produce and maintain adequate levels of red blood cells.[10]

Results found in Peripheral blood smear shows that in *Vataja Pandu*, RBC are microcytic hypochromic, in *Pittaja Pandu* the RBC picture shows normocytic hypochromic RBC and in *Kaphaja Pandu* we found normocytic normochromic RBC. No any changes in WBC and Platelets morphology is found. Other parameters like Hb, PCV, RBC does not show any specific significance in differentiating the types of *Panduroga*.

Conclusion

As different groups of Anaemia shows statistically significant difference for the values of MCV, MCH, MCHC in *Doshika Pandu*, so the null hypothesis (In present context Aetiological factors of *Pandu Roga* as described in classical Ayurvedic texts will not be observed and types of *Pandu Roga* cannot be correlated with common haematological parameters) is a disease seen in middle age group mainly 18 to 47 years, commonly seen in females, mostly housewives, belonging to middle and lower class, consuming mixed diet.

According to *Aharaja Nidana* which are *Pitta* vitiating like *Kshara*, *Amla*, *Lavana*, *Atyushna*, *Viruddha*, *Asatmya Bhojana*, *Nishpav*, *Masha*, *Pinyaksevana* among others were found in *Ayurvedic* literature as well as in survey study.

According to *Viharaja Nidana* which are *Vata* vitiating like *Diwaswapna*, strenuous work during indigestion, *Vega Vidharana* etc. *Nidana* is mention in our classical texts and also found nowadays. Conducted study also showed that maximum patients enrolled in the study were of *Vataja Pandu*. Maximum number of patients shows low level of MCV, MCH, MCHC in case of *Vataja* and *Pittaja Pandu*. But in *Kaphaja Pandu* MCV, MCH, MCHC values are in normal range. Based on PBS investigation, it was found that maximum patients of *Vataja Pandu* shows microcytic hypochromic RBC, *Pittaja Pandu* shows normocytic hypochromic RBC and *Kaphaja Pandu* shows normocytic normochromic RBC.

References

1. Agnivesha. Charaka Samhita. Edited with "Charaka Chandrika" Hindi Commentary by Dr. Brahmanand Tripathi. 2013 ed. Varanasi: Chaukhamba Surbharti Prakashan; Sutra Sthana Adhyaya 28/9-10. p. 548 [Crossref][PubMed][Google Scholar]
2. Sushruta. Sushruta Samhita of Maharshi Sushruta. Edited with Ayurveda-Tattva-Sandipika by Kaviraja Ambikadutta Shastri. Part 1. 2012 ed. Varanasi: Chaukhamba Sanskrit Sansthan; Sutra Sthana Adhyaya 15/3. p. 73 [Crossref][PubMed][Google Scholar]
3. Bhattacharya TT. Vachaspatyam. Part 5. 1962 ed. Varanasi: Chaukhambha Sanskrit Series Office [Crossref][PubMed][Google Scholar]
4. Park K. Park's Textbook of Preventive and Social Medicine. 25th ed. Pune: M/s Banarasidas Bhanot Publishers; 2019. Nutritional Problems in Public Health. p. 593 [Crossref][PubMed][Google Scholar]
5. Central Council for Research in Ayurveda and Siddha. Clinical Research Protocols for Traditional Health Sciences. New Delhi: Department of AYUSH, Ministry of Health and Family Welfare, Government of India; p. 837. [Crossref][PubMed][Google Scholar]
6. Agnivesha. Charaka Samhita. Edited with "Vadyamanorama" Hindi Commentary by Acharya Vidyadhar Shukla, Prof. Ravi Dutt Tripathi. 2013 ed. Varanasi: Chaukhamba Sanskrit Pratishthan; Chikitsa Sthana Adhyaya 16/7-9. p. 396 [Crossref][PubMed][Google Scholar]

7. Agnivesha. Charaka Samhita. Edited with "Vadyamanorama" Hindi Commentary by Acharya Vidyadhar Shukla, Prof. Ravi Dutt Tripathi. 2013 ed. Varanasi: Chaukhamba Sanskrit Pratishthan; Chikitsa Sthana Adhyaya 16/7-9. p. 397 [Crossref][PubMed][Google Scholar]

8. Agnivesha. Charaka Samhita. Edited with "Charaka Chandrika" Hindi Commentary by Dr. Brahmanand Tripathi. 2013 ed. Varanasi: Chaukhamba Surbharti Prakashan; Sutra Sthana Adhyaya 1/59. p. 32 [Crossref][PubMed][Google Scholar]

9. Agnivesha. Charaka Samhita. Edited with "Charaka Chandrika" Hindi Commentary by Dr. Brahmanand Tripathi. 2013 ed. Varanasi: Chaukhamba Surbharti Prakashan; Sutra Sthana Adhyaya 1/60. p. 32 [Crossref][PubMed][Google Scholar]

10. Agnivesha. Charaka Samhita. Edited with "Charaka Chandrika" Hindi Commentary by Dr. Brahmanand Tripathi. 2013 ed. Varanasi: Chaukhamba Surbharti Prakashan; Sutra Sthana Adhyaya 1/61. p. 33 [Crossref][PubMed][Google Scholar]

Disclaimer / Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of Journals and/or the editor(s). Journals and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.