

**EFFECT OF CHANDRAKALA CHOORNA IN THE MANAGEMENT
OF PANDU ROGA - A PILOT STUDY**

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ABSTRACT

In Ayurveda, the description of Pandu is available either in the form of disease or complication or as a sign or symptoms. Pandu is a clinical condition characterized by whitish yellow discoloration of skin, eyes, nails etc. The person with this disease suffers from decreased blood amount, strength and complexion. All the symptoms of Pandu roga can be correlated with Anaemia in modern science. The symptoms associated with anaemia includes fatigue, loss of stamina, breathlessness and tachycardia^[1] which is similar to the 'Pandu Roga' in Ayurveda context. Due to high prevalence of this disease in society, it is chosen for the study. In contemporary medical science, many iron preparation are given in this condition but this preparations have

common side effects like nausea, abdominal pain and either constipation or diarrhoea. Even in Ayurveda, many formulations of Raskalpas are used to treat the disease which shows certain limitations over time. Thus, Chandrakala Choorna is chosen here for the management of Pandu roga. Chandrakala Choorna is a polyherbal drug containing Kiratikta, Kutaki, Musta, Shunthi, Maricha, Pippali, Indrayav, Chitrak and Kutaja as described in Vaidya Jeevan. After observation of literature source given and research work surveyed by others on all above said properties of given kalpa, we can say that it will lead to expected Samprapti bhanga in Pandu Roga (Anaemia)

KEYWORDS: Ayurveda, Pandu, Chandrakala choorna etc.

INTRODUCTIONS

According to Ayurveda, health is the one where body's constitution i.e. three dosha, seven dhatu and three mala is in state of normalcy, digestion is balanced, one where body tissue elimination is maintained and mind as well as the senses itself are filled with bliss.^[2] Ayurveda describes dosha, dhatu and mala as the basic functional unit of human body. The equilibrium in their quality and quantity maintains health, any disproportion or dysfunction of these three elements leads to diseases.

The dhatus nourishes the body and retains its balance.^[3] Primary dhatus like 'Rasa' and 'Rakta' plays vital role as they are the starting block of body. Rasa and Rakta had been considered as a determinant factor of Preenana, Jeevana, Poshan and Dharana karma of body. Rakta i.e Blood is considered as the essence of life and it continuously supplies oxygen to the body along with the others nutrients to every cell of the body with the help of heart being the center of the circulating system.

All these factors lead to Pandu Roga which is one of the commonest nutrient deficiency disorders seen in humans irrespective of age, sex and religion. According to Acharya Charaka, Pandu roga is mentioned as a vyadhi of the Rasavaha Strotasa whereas according to Acharya Sushruta it is a Raktavaha strotasa vyadhi. Pandu roga is a Pitta dominant tridosha disorder in which all types of pitta (Pachak, Ranjaka, Sadhaka, Bhrajaka pitta) except Alochaka pitta gets vitiated. It also vitiates Rasa and Rakta dhatu due to the aashraya bhava of Pitta dosha. These dhatus get affected, thereafter the Varna, Bala, Sneha and other properties of Ojas get exceedingly reduced. The patient develops pallor of the skin which is a prominent diagnostic feature of Pandu Roga which occurs due to the quantitative and qualitative deficiency of Rakta Dhatu. Considering Panduta as the predominant sign, the disease termed as Pandu Roga.

Pandu means mixture of white and yellow color which resembles with the pollen grains of Ketaki flower. In modern science, the Pandu roga can be comprehended with Anaemia. Anaemia refers to reduction of haemoglobin level of the blood. Normal level of haemoglobin in adult females is between 12-16gm/dl; while in adult males it is between 14-18gm/dl.

According to the World Health Organization, haemoglobin of less than 13.0gm/dl in an adult male, less than 12.0gm/dl in an adult non-pregnant female, and less than 11.0gm/dl in pregnant female should be considered as evidence of anaemia.^[4]

AIMS AND OBJECTIVES

To evaluate the efficacy of Chandrakala choorna in Pandu Roga.

MATERIAL AND METHODS

Study setting

OPD and IPD of our institute's Kayachikitsa Department.

Study Population

5 patients are taken of Pandu roga irrespective of gender and religion.

Method Of Selection Of Study Subjects

As per standard protocol of study subjects is as follows: -

Inclusion Criteria

- Patients with the signs and symptoms of Pandu Roga supplemented with that of Anaemia are the main criteria for diagnosis.
- Patients in the age group 18 to 60 years.
- Patients who will be giving written consent.
- Patient having Haemoglobin level between 8 to 10gm/dl (As mentioned in CCRAS)

Exclusion Criteria

- Patients having DM, high cholesterol, HIV, Cancer, Renal Failures, Cardiac failure
- Any continuing blood loss e.g haematuria, bleeding piles, Hematemesis, Melaena.
- Thalessemia
- Pregnant females and lactating mother

Withdrawal Criteria

- Left against medical advice (LAMA).
- Development of complications due to presenting illness or otherwise.
- Any adverse drug effect.
- Discontinuation of the treatment during trial.

Operational/ Interventional Definitions

DRUG	Chandrakala Choorna
DOSE	6 grams (each dose of 3 grams)
TIME	Twice a day (<i>Adhobhakta</i> i.e. post meals)

ROUTE	Oral route
ANUPAN	<i>Dugdha (Cowmilk)+guda</i>
DURATION	6 weeks
FOLLOW UP	Clinical follow up on 1 st , 2 nd , 3 rd , 4 th , 5 th , 6 th

Chandrakala Choorna^[5]

तुल्यांशंसकलं किरातकटुकामुस्तेन्द्रजत्रूषणम् । भागश्चन्द्रकलामित कुटजतोभागव्यं चित्रकात् ॥

चूर्ण चन्द्रकलाभिघं गुडपयोयुक्तं च पाण्डुज्वरातीसारारुचिकामलाग्रहणिकागुल्मप्रमेहापहम् ॥

(वै.जी. । वि. २)

Contents of Chandrakala Choorna^[6]

Sr No	Drug Name	Latin Name	Family	Rasa	Virya	Vipaka	Prayojanga
1	Kiratikhata	Swertia Chirayta	Gentianaceae	<i>Tiktha</i>	Ushna	Katu	Panchanga
2	Kutaki	Picrorhiza Kurroa	Scophulariaceae	Tiktha	Sheeta	Katu	Kaand(काण्ड)
3	Musta	Cyperus Rotundus	Cyperaceae	Tikhta Katu Kashaya	Sheeta	Katu	Kanda(कन्द)
4	Indrayav	Holarrhea Antidysentrica	Apocynaceae	Tikhta Katu Kashaya	Sheeta	Katu	Beej
5	Maricha	Piper Nigrum	Piperaceae	Katu	Ushna	Katu	Phala
6	Pippali	Piper Longum	Piperaceae	Katu	Anushn ashna	Madhur	Phala
7	Shunthi	Zingiber Officinalis	Zingiberaceae	Katu	Ushna	Madhur	Kanda
8	Chitrak	Plumbago Zeylanica	Pumbaginaceae	Katu	Ushna	Katu	Mool
9	Kutaja	Holarrhea Antidysentrica	Apocynaceae	<i>Tiktha</i> Katu Kashaya	Sheeta	Katu	Twaka

Assessment Criteria

- After the completion of the treatment the obtained results were assessed by evaluating the following criteria.
- Following symptom score were adopted for the assessment.

Subjective Criteria^[7]

Symptoms mentioned in text were assessed at each follow up. Symptoms were arbitrarily graded into 4 grades (0-3) on basis of severity

1. Karnashweda

Sr no	Parameter	Grade
1	Absent	0
2	Occasional and Tolerable	1
3	Occasional and Non Tolerable	2
4	Constant and Non Tolerable	3

2. AGNIMANDYA (diminution of the agni)

Sr no	Parameter	Grade
1	Feels good hunger and proper digestionregularly	0
2	Feels good hunger but irregular digestion	1
3	Feels less hunger and irregular digestion	2
4	Feels very less hunger and very less digestion	3

3. DAURBALYA (weakness)

Sr no	Parameter	Grade
1	Can do routine exercise/work	0
2	Can do moderate exercise with hesistancy	1
3	Can do mild exercise only,with difficulty	2
4	Can not do mild exercise too	3

4. BHRAMA (dizziness,giddiness)

Sr no	Parameter	Grade
1	Absent	0
2	Occasional giddiness	1
3	Frequent attacks of giddiness	2
4	Regular attacks of giddiness	3

5. JWARA (fever)

Sr no	Parameter	Grade
1	No	0
2	Occasional	1
3	Daily once	2
4	Constant	3

6. SHWASA KASHTA (dyspnoea/breathlessness)

Sr no	Parameter	Grade
1	Dyspnoea after heavy work but relieved soonand upto tolerance	0
2	Dyspnoea after moderate work but relievedlater and upto tolerance	1
3	Dyspnoea after little work but relieved later andupto tolerance	2
4	Dyspnoes after little work but relieved later andbeyond tolerance	3

7. GAURAVA (heavyness)

Sr no	Parameter	Grade
1	Absent	0
2	Occasional	1
3	Frequently	2
4	Regular	3

8. SHUNAKSHIKUTA SHOTHA (periorbital oedema – puffiness of eye socket)

Sr no	Parameter	Grade
1	Absent	0
2	Present – eye socket only	1
3	Present – all over body	2
4	Present, always and disturbing routine activities	3

9. SHIRNLOMATA (hairfall)

Sr no	Parameter	Grade
1	Absent	0
2	Present	1

10. PANDUTA (Pallor) – In

Twaka, Nakha, Netravartma, Karnapali, Jihva, Hastapadtala

Sr no	Parameter	Grade
1	Not visible, pink all over	0
2	Visible	1
3	Visible with yellow discolouration	2

11. PINDIKODWESHTANAM (cramps on legs)

Sr no	Parameter	Grade
1	Absent	0
2	Present Occasional	1
3	Present frequent attacks	2
4	Present regular	3

Objectives Parameters

Following investigations to be carried out- At the start as well as at the end of study.

1. Haemoglobin

Follow-up: Weekly follow-up with assessment of the patient on 7th, 14th, 21nd, 28th, 35th, 42nd day

OBSERVATION AND RESULTS

SR NO	REG NO.	KARNA SHWEDA		AGNIMANDYA		DAURBALYA		BHRAMA		JWARA		SHWASA KASHTA	
		B.T	A.T	B.T	A.T	B.T	A.T	B.T	A.T	B.T	A.T	B.T	A.T
1	202201996	1	1	2	1	1	0	1	1	1	0	2	1
2	202202058	0	0	2	1	3	1	0	0	0	0	2	1
3	202202278	1	0	3	1	2	0	0	0	0	0	0	0
4	202202329	2	1	1	1	1	0	1	0	1	0	2	0
5	202202333	1	0	2	1	3	1	2	0	2	0	2	1
SR NO	REG NO.	GAURAV		SHUNAKSHI KUTASHOTH		SHIRNA LOMATA		PANDUTA		PINDIKO DWESHTAN		Hb	
		B.T	A.T	B.T	A.T	B.T	A.T	B.T	A.T	B.T	A.T	B.T	A.T
1	202201996	3	1	0	0	1	1	1	0	3	0	8.2	10
2	202202058	2	1	0	0	0	0	1	0	2	1	9.1	11
3	202202278	2	0	1	0	1	0	1	1	1	0	9	11
4	202202329	3	1	0	0	0	0	1	0	2	1	8.6	11
5	202202333	1	0	1	0	1	0	1	0	2	1	8	12

(B.T.=before treatment, A.T.=after treatment, Hb=haemoglobin)

DISCUSSION AND CONCLUSION

- Different conditions of Pandu had been mentioned by all Acharya. This shows that disease was prevalent from ancient period.
- Pandu affects whole body, it is a pitta Pradhan tridoshaj vyadhi and forms the part of Bahya Roga Marga thus skin becomes pale.
- In the Samprapti of this disease it had been mentioned that Hridayasta Pitta vitiates and with the help of Vayu it goes to ten Dhamni. This shows that Sanga and Vimargagamana found in its pathogenesis.
- Pandu roga can be contemplated with Anaemia in the modern science due to their similar clinical features
- Cardinal features of Pandu roga include karnashweda, agnimandya, daurbalya, bhrama, jwara, shwashakashta, shunakshikutashotha, Gaurav, panduta, pindikodweshtan,

shirnalomata.

- 5 patients with classical symptoms of Pandu roga of age between 18-60 years irrespective of their sex, religion and economic status were selected for the study.
- They were treated with Chandrakala Choorna 6gms/day with dugdha and guda(jaggery) and assessment was done on basis of clinical gradings before and after interventions.
- As per the observations, there is significant difference between BT and AT symptoms scores. Thus, it is concluded that Chandrakala Choorna is significantly effective in Pandu roga
- Any hazardous effects haven't been reported by the patients during the study or in follow up, which is very important in acceptance of Ayurveda, worldwide.
- Further study can be conducted to study the effect of Chandrakala Choorna along with other intervention like virechan, vamana etc.

PROBABLE MODE OF ACTION OF CHANDRAKALA CHOORNA

By observing all the data collected for the improvement in the symptoms we can say

- In Chandrakala Choorna, drugs like Kiratikta, Kutaki, Musta, Indrayava, Kutaja has 'Pitta-Kaphahar' property whereas remaining drugs like Maricha, Shunthi, Pippali and Chitrak has 'Vata-Kaphahar' properties. So, it promotes the "samprapti vighatana" of Pandu Roga, as in this all three dosha are vitiated. It works as anuloman as well as rechana to eliminate vitiated dosha.
- Kiratikta has Jwarahara properties and it helps in Pitta-shaman by eliminating vitiated Pitta by Rechana.
- All drugs have Deepan-Pachana properties due to its Laghu, Ruksha, Ushna Guna and Katu-Tikta Rasa whereas drugs like Trikatu, Chitrak are excellent Agnivardhaka. Thus, it increases the Jatharagni as well as Dhatavagni upto normal level and diminishes mandagni which breaks the pathogenesis of Pandu roga and promotes Aampachan which will lead to proper absorption of nutritive value of food.
- Acharya Sushruta has described that Yakrut & Pleea are made of Rakta dhatu, this indicates, vitiation of Rakta dhatu results in Yakrut & Pleea dushti which leads to Pandu roga. Drugs Like Kutaki, Chitraka & Kutaja have "Yakrut Uttejak" properties and Musta helps in Rakta Prasadana. So, it will help in Dhatu Pariposhan Karma, which will produce Prakruta 'Rasa' & 'Rakta' Dhatu by increasing its "Dhatavagni".
- Drugs like Pippali and Chitrak are excellent Rasayan. This drug has Rasayan properties

which is a necessity for Dhatukshayaja Vikara. 6. Since the medicine are given with Dugdha & Guda Anupana which has Balya & rasayan properties helps the drugs to easily get absorbed & digested. It improves Memory, Complexion, Swara, Kanti and Oja.

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