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"TO STUDY THE CLINICAL EFFICACY OF PUNARNAVAADIKWATH ON HB% AND PERIPHERAL BLOOD SMEAR EXAMINATION OF RBC IN PANDUROGA W.S.R. TO IRON DEFICIENCY ANAEMIA"

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ABSTRACT

PANDUROGA w.s.r. to Iron Deficiency Anaemia (IDA) is mostly common disease in our country. Incidence Of this condition is growing in women more than men. It's occurance with 58% in female and 42% in male. Its reveals the majority of patients suffering from the IDA is. 53.33% in lowerclass and farmer as well as servise is 36.7%. The time is ripe enough to serious take up productive researches in such disorders; where AYURVEDA can offer a better treatment than any other medical system. The treatment was conducted for duration of two months, the response to the treatment was recorded with the help of parameter. The effect of PUNARNAAVADI KWATH in partial relief group is 88% and 92% respectively to subjective and objective parameter, while in no good relief group is 12% and 8% respectively to each parameter w.s.r. to IDA. The result revealed that Panduroga w.s.r.to IDA can be **quite** cured in HB% and PERIBHERAL BLOOD SMEAR OF RBC by using Punarnavadi kwath.

KEYWORDS: PANDUROGA, IRON DEFICIENCY ANAEMIA (IDA), HAEMOGLOBIN (Hb%), PUNARNAVAADIKWATH, PERIPHERAL BLOOD SMEAR OF RBC (P.B.S.OF RBC).

INTRODUCTION

Any knowledge system grows and develops through continuous researches and re-evaluations. Ayurvedic classics 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 longer life to the humanity. In the backdrop of the resurgence of Ayurveda as an alternative or even an ultimate anchor to the psychosomatic and life style related diseases, the time is ripe enough to seriously take up productive researches in such disorders where Ayurveda can offer a better hand than any other medical system.

BLOOD is the very essence of life and nature has devised a very ingenious method to continuously supply blood to every part of the body, in fact every cell of the body. Oxygen along with other nutrients is supplied continuously by the circulating blood, with the heart at the centre of this system. Oxygen is required or all metabolic functions of the cells and production of energy for these activities.

Pandu, is a disease characterized by pallor of body which strikingly resembles with 'Anaemia' of modern science, disease to reduction the number of RBCs per cumm of Blood and quantity of Hb resulting in pallor like other symptoms.

Rakta has been considered as a key factor for the Jeevana, Prinana Dharana and Poshana karma of the body. Many a times it is seen that Rakta gets vitiated by Doshas, mainly by Pitta dosha as Rakta is Pittavargiya and disease like Pandu appear.

In Ayurveda, Pandu is considered as a specific disease with its own pathogenesis and treatment. Thus an attempt has been made to study.

AIMS AND OBJECTIVES

1) To study the clinical efficacy of punarnavaadi kwath on Hb% and peripheral blood smear examination of RBC in panduroga w.s.r. to iron deficiency anaemia.
2) To clinically correlate panduroga & iron deficiency anaemia.
3) To study Hb % in details.
4) To study peripheral blood smear examination of RBC in details.

5) To study efficacy of punarnanavadi kwath in details & review literature available on its mode of action in panduroga w.s.r.to iron deficiency anaemia.
6) To review & study ancient and modern literature available on related topic.

MATERIALS

1) Punarnavaadi kwath, Gomutra Aacharya Sharangdhar Samhita (kwath kalpana) Madhyam Khanda-2/78-79.

The preparation of Punarnavaadi kwaath with following dravyas Ingredients

Serial No.	Sanskrit Name	Botanical Name	Parts
1.	Punarnava	Boerhaavia diffusa	1
2.	Haritaki(Abhaya)	Terminalia chebula	1
3.	Nimb	Azadirakta indica	1
4.	Daruharidra(Darvi)	Berberis aristata	1
5.	Katuka(Tikta)	Picrorrhiza kurroa	1
6.	Patol	Tricosantes Dioica Roxb	1
7.	Guduchi	Tinospora cardifolia	1
8.	Shunti(nagar)	Zingiber officinale	1

2) Sahli's haemoglobinometer
a) Hb pipette
b) A graduated tube
c) A standard brown consist of tube mounted on haemoglobinometer

3) 0.1%N Hcl
4) Distill water and Dropper
5) 2 cc dispo syringe with needle and Spirit swab.
6) EDTA bulb

7) Peripheral blood smear examination material
a) Plane glass slide:- 2
b) Paper & pensile for labeling and Staining rack
c) Methanol solution
d) Field's stain A
e) Field's stain B
f) Microscope with oil emultion lens (100x)
g) Cedar wood oil

METHODS

1) The patients for the study was selected at random, irrespective of cast, sex, etc. 60 Patients were selected strictly according to ayurvedic signs and symptoms of panduroga w.s.r. to iron deficiency anaemia. After all neccessory investigation and patient imformed consent then selected patient was treated in OPD/IPD which is placed in one clinical trial group.

2) Blood sample before treatment will be collected for Hb% and smear preparation by syringe and place in EDTA bulb.

3) Sahli's method to determination of Hb%.

4) Peripheral blood smear preparation and staining method to observe the morphology of RBC.

5) Punarnavaadi kwath will be given to them after investigation. Punarnavaadi kwath prepared by the myself as per the method given in Sharangdhar Samhita (kwath kalpana) Madhyam Khanda-2/78-79.

Selection criteria

Sixty (60) patient from outdoor as well as indoor department will be taken in consideration.

a) Inclusive criteria

1) Male and female patients with age group of 20-60 yrs.

2) Patients having features of Panduroga w.s.r. to Iron Deficiency Anaemia.

b) Exclusive criteria

1. Pregnancy
2. Malignancy
3. Haemophillia
4. Hb % less than 5gm%
5. Hb% greater than 13gm% in male and 11 gm% in female
6. HIV infection
7. HBsAg positive patients
8. Renal failure
9. Anaemia due to injuries (blood loss)
10. All types of G.I. bleeding
11. Pernicious anaemia, Anaemia of chronic disorders, Thalassaemic syndromes, Aplastic anaemia, sideroblastostic anaemia, Megaloblastic anaemia, Haemolytic anaemia.

Subjective and objective parameter (before and treatment)

a) Subjective parameter

1) Twak, nakh, netra, panduta (Pallor)

2) Agnimandhya

3) Daourbalya (Fatigue)

4) Annadwesh

5) Ayasen Shwash (Dyspnoea)

6) Aruchi

7) Hridayspandan (palpitation)

b) Objective parameter

1. Haematology investigation

1) CBC

2) PBS(Peripheral Blood Smear) Examination of RBC

3) Sr. urea & creat

4) HBsAg test AND HIV test

Treatment schedule of patients

1) The patients for the study was selected at random, irrespective of cast,sex,etc.60 Patients are selected strictly according to ayurvedic signs and symptoms of pandu roga w.s.r. to iron deficiency anaemia and treated in OPD which is placed in one clinical trial group.

2) Blood sample will be collected by syringe for Hb%and blood smear preparation which is placed in EDTA bulb before treatment.

3) Sahli's method to determination of Hb%.

4) Peripheral blood smear preparation and staining method to observe the morphology of RBC.

5) Excluding all the patients mentioned in exclusive criteria, 60patients having main samprapti of pandu roga w.s.r. to iron deficiency anaemia were selected for the present study.

6) Punarnavaadi kwath will be given to them after basic and Special laboratory investigations and patient informed consent.

Preparation method: Punarnavaadi churna + Plain water $\xrightarrow{\triangle}$ P. Kwatha (1 Pala) (16 Pala) Till becomes $1/8^{th}$ (2 Pala) of total

Dose & duration:- Punarnavaadi kwath

Dose: 30ml.

Anupan: Gomutra.

Kaal: morning and evening after meal (pacchat- bhakta).

Duration: 2 months.

Follow up: 15th, 30th, 45th, 60th days.

Dietery restriction

The patients was adviced to keep his normal routine diet but advice to avoid the food which is causative factor of pandu roga. It was strictly instructed to the patient that no other drug should be taken during the span of treatment.

RESULT

Criteria for assessment of result

The criteria for assessment of results are based on the severity of the sign and symptoms before and after treatment as well as changes brought toward normal in the laboratory investigations like Haemoglobin and eripheral blood smear examination (morphology) of RBC.

0 – Absence of symptoms

1 – Mildness of symptoms

2 – Moderate symptoms

3 – Severe symptoms

Table No:-1 Statistical Result of Symptoms with PBS Examination Of RBC and HB%

Variables Subjective Parameter	Treatment	Mean score	Standard Deviation	Wilcoxon Signed Ranks Test Z	P	% Relief
1) Daurbalyata (Fatigue)	BT	1.47	.96	**5.389**	<0.001 HS	40.8
	AT	.87	.81			
2) Panduta (pallor)	BT	1.97	.88	6.583	<0.001 HS	50.8
	AT	0.97	.84			
3) Agnimadhya	BT	1.67	.91	5.454	<0.001 HS	47.9
	AT	0.87	.67			
4) Ayasen Shwas (Dypnoea)	BT	1.70	.86	5.906	<0.001 HS	41.2
	AT	1.00	.78			
5) Hridspandan (Palpitation)	BT	1.67	.87	5.738	<0.001 HS	40.1
	AT	1.00	.73			
6) Aruchi	BT	1.63	1.02	6.082	<0.001 HS	57.1
	AT	0.70	.69			

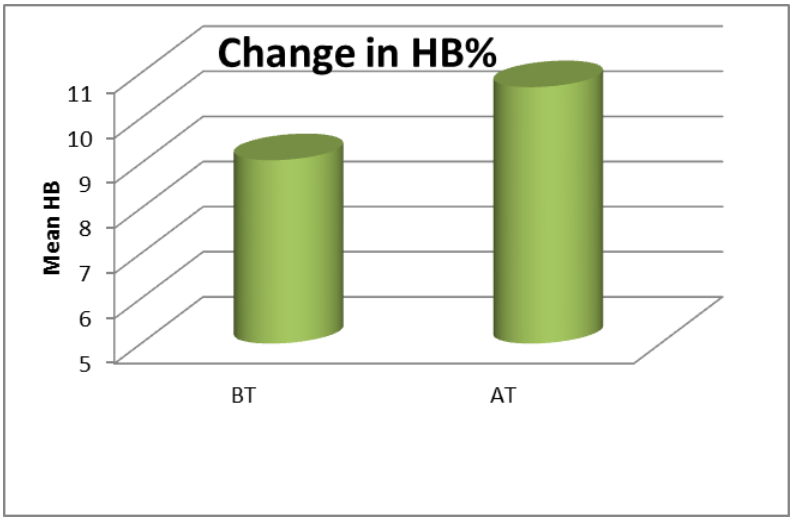
7) Annadwesh	BT	0.53	.96	3.557	<0.001 HS	49.1
	AT	0.27	.57			
8) Variation in size (Microcyte)	BT	2.58	.61	5.200	<0.001 HS	23.6
	AT	1.97	.71			
9) Inadequate HB formation (Hypochromic)	BT	2.00	.52	5.596	<0.001 HS	29.0
	AT	1.26	.72			

Table No:- 2 According to Objective Parameter effect after treatment/Change in HB%

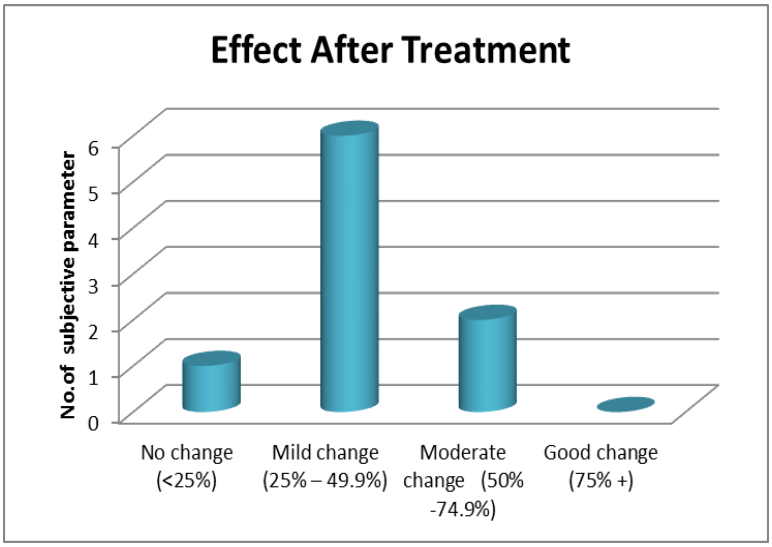
Variables Objective Parameter	Treatment	Mean HB%	Standard Deviation	Paired t	P	REMARK
1) HB%	BT	9.065	0.739	16.251	<0.001 HS	Significant
	AT	10.685	1.067			

Table No:-3 According to Subjective Parameter effect after treatment

Effect After Treatment To Subjective Parameter	No. of Subjective Parameter(9)	Percentage%
No Relief/No Good change(<25%)	1	12
Partial Relief/change **I) MildRelief/change (25% – 49.9%)**	6	66
II) Moderate Relief/change (50%-74.9%)	2	22
Complete Relief/Good change(75%+)	0	0
Total	9	100



Graph No-1



Graph No-2

DISCUSSION

On going through the study both the theoretical as well as clinical with 60 patients points are observed. According to Ayurveda Pandu roga is a disease of Rasavaha srotasa or going through the description of iron deficiency anaemia, its signs and symptoms mentioned in allopathic text are near by similar to Pandu Roga in Ayurvedic Granthas,

1) Table No 1:- Change in Daurbalyata according to mean score is 40.8%, Change in Panduta according to mean score is 50.8%, Change in Agnimadhya according to mean score is 47.9%, Change in Ayasen Shwas according to mean score is 41.2%, Change in Hridspandan according to mean score is 40.1%, Change in Aruchi according to mean score is 57.1% Change in Annadwesh according to mean score is 49.1%, Change in Variation In Size (MICROCYTE) as well as Inadequate Haemoglobin Formation (Hypochromasia) according to mean score is 23.6% and 29.0% respectively.

2) Table No.2, Graph 1:- Shows increase of Hb 1.62gm% before treatment and after treatment; also only 5 patients has no increase in Hb% in study out of 60 patient.

3) Table No., Graph 2:- Shows the percentage of Effect after the treatment toSubjective Parameter no one got complete relief/good change while Partial change (88%), while 12% have norelief/no goodchange.

CONCLUSION

1. Out of 60 patient **NO one got Complete relief or Good change** while **Partial relief or change is 88%** and **12% patient** has got **no relief / no Good change.**
2. Study shows that there is increase in Hb averagely 1.62 gm% in 2 month. and peripheral blood smear examination of RBC change toward normal in Variation In Size (MICROCYTE) as well as Inadequate Haemoglobin Formation (Hypochromasia) according to mean score is 23.6% and 29.0% respectively.
3. The results are more satisfactory if Hb% of the patient is more than 7 gm%.
4. Punarnavaadi kwath is quite effective on Hb% in Pandu Vyadhi w.s.r. to iron deficiency anaemia.
5. The plus point observed in case of Ayurvedic management was absence of any hazardous effect which is great benefit for long term treatment to the patient.
6. In society, percentage of population suffering from pandu (iron deficiency anaemia) is increasing day by day so they should aware regarding the disease and its complication.
7. Punarnavaadi kwath having significant result.

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