

A CRITICAL STUDY OF *PANDU ROGA* (ANAEMIA) W.S.R.TO *YAKRUT* (LIVER)

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Article Received on
25 Feb. 2018,

Revised on 18 March 2018,
Accepted on 08 April 2018,

DOI: 10.20959/wjpr20188-11584

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ABSTRACT

Now a days, *Pandu roga* (Anaemia) is found in large scale among all age group irrelevant to gender, so there is need to give much more importance to its treatment. Chronic liver diseases of any cause is frequently associated with haematological abnormalities, among these anaemia is a frequent occurrence seen in about 75% of patients with advanced liver diseases. Bleeding disorders are called as *raktapitta* & *yakruta* is the seat of *rakta* and *pitta* and *yakruta* also a *moola* of *raktavahi srotas*. This article presents the study which shows liver diseases are one of the important factor behind anaemia, according to both *Ayurveda* and modern aspect. So, if liver diseases are treated in early stages anaemia can be corrected to a great extent.

KEYWORD: Now a days, *Pandu roga* (Anaemia) corrected to a great extent.

INTRODUCTION

Now a days, *Pandu roga*(Anaemia) is found in large scale among all age group irrelevant to gender, so there is need to give much more importance to its treatment. This article presents the study which shows liver diseases are one of the important factor behind anaemia, according to both *Ayurveda* and modern aspect. So, if liver diseases are treated in early stages anaemia can be corrected to a great extent. Allopathic medical science explained that malnutrition is the main etiological factor for this disease but *Ayurveda* considers this disease more metabolic with nutritional, as described in *charak chikitsa sthana 16, Pandu Roga nidanas* –

क्षाराम्लवणात्युष्णविरुद्धासात्म्यभोजनात् । निष्पावमाषपिण्याकतिलतैलनिषैवणात् ॥

विदग्धे अन्ने.....।समुदीर्णं यदा पित्तं हृदये समवस्थितम् ॥ (च. चि. १६/७-९)

All factors, which are described in above *shloka* are *pittavardhaka*, in nature. These factors are responsible for disturbance of metabolism of the body., *yakruta*(liver) is said to be “seat of *pitta*” that’s by All the functions of *pitta* specially *ranjaka pitta* attributed by *yakruta*. *Ranjak pitta* is responsible for *ranjan* of *rasa dhatu* i.e, formation of *rakta dhatu* n a/c to *acharya sushruta rasa ranjan* occur in *yakruta*(liver) & *pleeha*(spleen).

स खल्वाप्यो रसो यक्रुत्प्लीहानौ प्राप्य रागमुपैति। रंजितास्तेजसा त्वापः शरीरस्थेन देहिनाम्।

अव्यापन्ना प्रसन्नेन रक्तमित्यभिधीयते ॥ (सु.सू. १४/५-६) *Yakruta*(liver) and *pleeha*(spleen) are considered as the root of *raktavaha srotas*.

रक्तवहे द्वे; तयोर्मूलं यक्रुत्प्लीहानौ.....।तत्र विद्धस्य श्यावांगता ज्वरो दाहः पाण्डुता शोणितागमनं रक्तनेत्रता च ॥ (सु. शा.९/१२)

According to *acharyas*, liver and spleen are derived from blood in the fetal life.

गर्भस्य यक्रुत्प्लीहानौ शोणितजौ.....। (सु.शा.४/२५)

That’s represent a relationship between *yakrut* and *rakta* since birth. In Ayurveda *rakta utapatti* depends on *yakruta*. All the metsbolism of body performed by *yakruta*(liver) & ultimately affects the *rakta dhatu*.

According to modern science, liver is main seat of metabolism. It is one of the most important organ in the body. Almost everything is processed in the liver like the food, carbohydrate, fat, proteins, vitamins, enzymes, hormones, neurotransmitters, drugs, alcohol, toxins, bacteria, viruses, etc are all metabolised by liver. Blood is formed by the liver and the spleen in early fetal life. This illustrates the close association between blood and the liver since fetal life according to both *Ayurveda* and modern science.

AIM

Study the role of *yakruta* in *pandu roga*.

OBJECTIVES

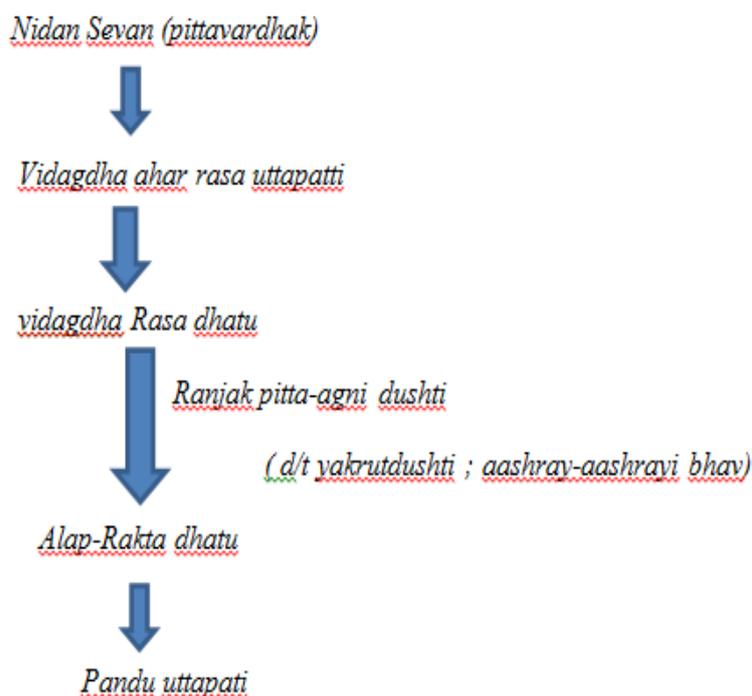
1. Study of pathogenesis of *pandu roga*.
2. Study of anemia present in liver diseases.
3. Indication of drugs used in both *pandu* and *yakrut vikar* according to *samhitas*.

MATERIAL AND METHOD**Pathogenesis of *Pandu Roga* According To *Ayurveda***

दोष – पित्त प्रधान

दूष्य – रस रक्त मेद मज्जा शुक्र

स्रोतस – रक्तवह स्रोतस



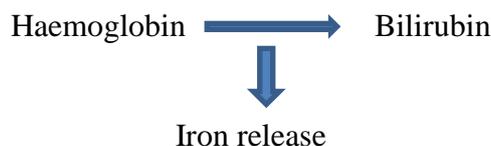
सो अल्परक्तो अल्पमेदस्को निःसारः शिथिलेन्द्रियः ।वैवर्ण्यं भजते..... ॥ च.चि.१६/६

Factors Responsible For *Ranjakagni Vikruti* (Bile)

INTRINSIC FACTORS	EXTRINSIC FACTOR
HCl	Fe, Co, Cu, Mn
Bile	VitB12, Folic acid, Ascorbic acid
Erythropoietin	Nicotinic, Pyridoxin
Ant. Pitutary hormone	Protein diet
Castle's extrinsic factor	

Different Liver Disorders In Which Anaemia Is Present

1. Jaundice: It occurs due to increased level of bilirubin in blood.



That means when more and more haemoglobin breaksdown, more n more bilirubin formed which leads to jaundice, that's by jaundice patient presents with anaemia. One of the liver's function is to filter out the bilirubin from the blood. Once bilirubin enters in the liver it becomes conjugated which is secreted in the bile and excreted.

Ex. As in case of haemolytic anaemia.

In Ayurveda, Acharyas already described that *pandu* in critical conditions leads to jaundice (*kamala*)d/t intake of more & more *pittavardhak aahar vihar*.

2. Cirrhosis of Liver: It is a complication of liver disease which involves loss of liver cells and irreversible scarring of the liver.

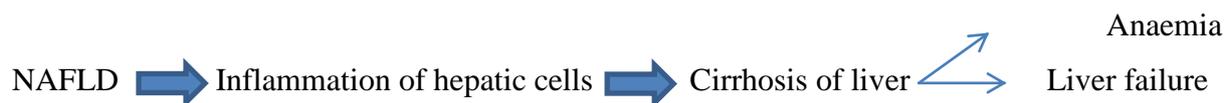
Alcohol and Hepatitis B &C are main causes although there are many other causes. In later stages cirrhosis of liver leads to splenomegaly as the spleen enlarges it filters out more and more of the blood cells and platelets until their no in the blood are redused. It is asociated with-

- a. Anaemia- Weakness
- b. Leucopenia –Infection
- c. Thrombocytopenia- Impair blood clotting.

3. Liver Necrosis: The clinical course of acute hepatic necrosis resembles to acute toxic injury to the liver with sudden and precipitous onset, marked elevation in serum transferase levels and early sign of hepatic (or other organ –kidney, lung, bonemarrow) dysfunction.

Acute hepatic necrosis is typically caused by a direct hepato-toxins and is usually dose dependent and expected rather than idiosyncratic. In liver necrosis there is other organ failure like kidney lung and bone marrow may present. In bone marrow failure there is less production of RBCs which leads to severe anaemia.

4. Non-Alcoholic Fatty Liver Disease: (NAFLD) It is becoming a most common liver disease world wide (prevalence:25-30%) with 1/3rd of adult patient being iron deficient.



5. Drug Induced Liver Diseases And Anaemia

DRUG	ACTION	SIDE-EFFECTS
1.Paracetamol	Analgesic	Haemolytic anaemia
		Liver damage
		Kidney damage
		Methaemoglobinaemia
2.Phenylbutazone	Anti-inflammatory	Aplastic anaemia
		Hepatitis
3.Analgin		Nephritis
4.Carbamazepine	Anti-epileptic	Bone marrow depression
		Obstructive jaundice
		Dizziness
		Mental confusion
5.Phenothiazine	Anti-psychotic	Aplastic anaemia
		Intra-hepatic cholestasis
		Aggravation of D.M.
6.Sulphonamides	Antibiotic	Aplastic anaemia
		Jaundice
7.Chloramphenicol		Bone marrow depression
		Liver damage
8.Lincomycin		Bone marrow depression
		Jaundice
9.Amphotericine		Hepatocellular failure
		Anaemia
10.Flucytocin		Liver damage
		Bone marrow depression
11.Thiacetazone	Anti-tubercular	Bone marrow depression
		Liver damage
12.Dapsone	Anti-laprosy	Haemolytic anaemia
		Liver damage
13.Mepacrine	Anti-malarial	Hepatotoxic
		Aplastic anaemia
14.Tetrachlor ethylene	Anti-helminth	Collapse if severe anaemia
		Jaundice
15.Methotrexate	Anti-malignancy	Megaloblastic anaemia
		Liver damage
16.Mercaptopurine		Bone marrow depression
		Liver damage
17.Sulphonyl urea	Endocrinal disorders	Aplastic anaemia
		Cholestatic jaundice

Chikitsa of yakruta vikar in pandu roga

As per above discussion, *yakrut vikruti* is one of the factor behind *pandu roga* according to both Ayurveda and modern. In *samhitas* there is very little description present about *yakrut vikar* seperately. there is description of *yakrut vikar* present along with *pleeha rog*. As per different *samhitas* and commentators:

तदेव प्लीहोदरं यक्रुद्दाल्योदरं यम क्व यमित्याह यक्रुति कालखण्डे भूते प्रदुष्टे । (ड.)

प्लीहोदरस्यैव भेदो यक्रुद्दाल्योदरं तथा । (भा.प्र.)

तुल्यहेतुलिङ्गोषधत्वात्स्य प्लीहज एवावरोध इत्येत यक्रुत्प्लीहोदरं विध्यात्।(च.चि.१३)

In all above referances, *pleeha vikar* and *yakrut vikar* are similar.a/c to *acharya charak* there is *tulya hetu; ling; aushad* for both *yakrut vikar* and *pleeha vikar*. so those *dravyas* are acts over *pleeha* also acts over *yakrut vicar*.

Some Shastrokt yoga present in both Pandu roga and yakruta /pleeha vikar

YOGA	MAIN CONTENTS	ACTION
1. Dadim ghrit (ch.chi.16/45)	dadim, dhanyak, pippali, chitrak with goghrit	Rakta vardhak
2. Danti ghrit (ch.chi.16/51)	danti + goghrit	Pitta virechan
3. Mandoor vataka (ch.chi.16/76,77)	Mandoor with gomutra Trifala, trikatu, trimad Daruharidra, devdar swarnamakshik	Srotoshodhan, move to soksham srotas (tissue & cells) improves blood formation
4. Shilajatu vataka (ch.chi.16/91)	Shilajatu + kutaj, trifla, musta, suntha, nimba etc	Rasayan with deepan paachan
5. Punarnava mandoor (ch.chi.16/96)	Punarnava+3T*, trivrut, daruhaldi, devadar, kutaj	Raktavardhak, raktashodhak
6. Rohitak ghrit (ch.chi.13/85)	Rohitak twak, kol, panchkol, +goghrit	Deepan –pachan, Bruhan karm(snehan)
7. Guduchyadi churna (b.r.)	Guduchi, musta, sunthi, ateesa bhunimba, pippali	Rasayan
8. Pleehantak rasa	3T*, guggulu, rasna, katuki, trivrut, yavakshar	Pitta virechan, srotoshodhan
9. Lokanatha rasa	P, G, A, L, T, varatika, (pippali churna + guna)]	Went to sokshmasrotas (tissue & cell)and improves blood formation
10. Chitrakadi loha	Chitrak, suntha, pippali, guduchi, vasa, loha, abhrak, Tamra kshar...etc.	Srotosodhan and rasayan
11. Chitrak ghrit	Chitrak kwath+goghrit Kalka-panchkol, jeerak, Haldi, daruhaldi.... Etc.	Agni sandhukshan with deepqn paachan, srotiosodhan

Note: 3T* – trifala+trikatu+trimada

Ekal dravya effective in yakruta vikar

1. Rohitak
2. Haridra
3. Daruharidra
4. Sariva
5. Pippali
6. Chitrak
7. Suntha
8. Bhunimba
9. Awala

Indication of *yakruta yusha paan*

Pandu should be considered as an *raktapitta vyadhi* because of there is *dushti of rakta* and *pitta* in great extent. According to *acharya sushurut* and *vagbhatta raktapitta kshaya chikitsa*, there is indication of *yakrut yusha pan*.

यक्रुद्वा भक्षयेदाजमामं पित्तसमायुतम । (सु.चि.४५/३०)

DISCUSSION

In “*MANAV SHARIR RAHASYA*” dr. verma ji explained that *yakrut* and *pleeha* take part in blood formation in adult life also and it is proved by an research of animal study- in which *yakrut* was removed from body of animal then red bone marrow was increased in that proportion, its proved that *yakrut- pleeha* also take part in blood formation.

CONCLUSION

All above discussion conclude that if *pandu* is treated as *yakruta dusti* and *yoga* that's are used should be *yakrut dushti hara* than *pandu* could be treated ealier at a great extent.

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