



## STUDY OF RAKTASARA PURUSH WITH SPECIAL REFERENCE TO COMPLETE BLOOD COUNTS

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## ABSTRACT

Acharyas says that without the involvement of *Dosas* diseases would not manifest in the body. That's why it is necessary to understand the normal (equilibrium state) and abnormal (disequilibrium state) of *Dosas* in detail to know about physiological and pathological state of *Dosas*. The equilibrium state of *Dosas* is responsible for the maintenance of normal physiological functions. Seven types of *Dhatu*'s are described in detail namely *Rasa*, *Rakta*, *Mamsa*, *Meda*, *Asthi*, *Majja*, and *Shukra*. Seven types of *Upadhatus* are produced by the *Dhatu*'s during their metabolism are *Stanya*, *Rajas (Rasa Dhatu)*, *Kandara* and *Siras (Rakta Dhatu)*, *Vasa* and *Sattvaca (Mamsa Dhatu)*, *Snayu*, *Sandhi* and *Sveda (Meda Dhatu)*, *Danta (Asthi Dhatu)*, *Kesa (Majja Dhatu)* and *Ojas (Shukra Dhatu)*. The body gets nourished when the *Dhatu*'s are in equilibrium state.<sup>1</sup> *Dhatu*'s may undergo *Vridhhi* (increase) or *Kshaya* (depletion) depending on the nature of causative factors and responsible various disorders. *Bala* means biological strength or power of resistance against diseases. It may be correlated with the immunity of an individual. As the predominance of particular *Dhatu*, the number of *Dhatu Sara* present in the body of an individual will be directly proportional to power of resistance of an individual<sup>2</sup>. That's why *Sarva Sara* individual have relatively higher resistance in comparison to *Madhyama* and *Avara (Sara)* individuals. CBC is a set of medical laboratory tests that provide information about the cells in a person's blood. The CBC indicates the count of WBC, RBC and platelets; the concentration of Hb and the hematocrit (the volume percentage of RBC) the red

blood cell indices which indicate the average size and Hb content of red RBC, are also reported, and a white blood cell differential, which counts the different types of WBC may be included.

**Keywords:** Raktasara, Dhatu, Sarata, Complete Blood Count, Purush

## INTRODUCTION

*Ayurveda*, the traditional medicine of India is one of the most comprehensive and longest practiced natural health care systems; it may be translated into various ways. "Ayu" is the root that means "life" or anything that is related to life and "Veda" means "knowledge" or wisdom. *Ayurveda* is usually translated as science of life, but most suitable translation would be probably something like knowing how to live well that is a long and healthy life. In *Ayurveda* it is necessary to understand the basic concepts which are related to manifestation, diagnosis and prognosis of disease. *Rakta Sara Purusha* are endowed with *Rakta Dhatu* in predominance features of this *Sara* represent the excellent state of *Rakta*. *Raktasara* characteristic may be seen all over the body. *Rakta Sara Purusha Lakshanas* (sign of the best quality of blood): *Rakta Sara Purusha Lakshanas* indicates the sign of richness and best essence of blood tissue of a person. Acharya Charak in above verses describes that *Raktasara* body have unctuous, red, beautiful and dazzling like ear, eyes, face, tongue, nose, lips, and palms, sole of the foot, nails, forehead, and penis. The great *Shalyak Sushruta* shares similar opinion that *Raktasara* peoples possess unctuous and coppery nails, eyes, palate, tongue, lips, palms, and soles.

The *Raktasara* person having endowed with some special mental characters as<sup>3</sup>:

*Sukha* - Comfort and happiness

*Uddhatam* – Arrogance / Pride / Violent/ Rude / Ill Behaved

*Medha* - Good grasping power

*Manasvitam*- Self Respect/ High Mindedness / Magnanimity / Wiser

*Soukumaryam*- Delicate nature

*AnatiBalam*- Less strength and endurance

*Aklesha sahisnutvam*- Inability to face difficulties.

*Ushna asahishnutvam*- Intolerance to heat, *Sara* examination is very important prior to physical training,

choice of job, intake of diet, and many more of drug in daily life to the individuals in clinical practice.

CONCEPT OF SARA<sup>4</sup>:

Patient is to be examined with reference to *Sara* or the excellence of their *Dhatu*s. They are classified into eight (8) categories depending upon the *Sara* or excellence of their *Dhatu*s.

*Tvak* (literally Meaning skin but contextually meaning *RasaDhatu*)

- *Rakta* (Blood)
- *Mansa* ( Muscle tissue)
- *Medas* ( Adipose tissue)
- *Asthi* ( Bone tissues)
- *Majja* ( Bone marrow)
- *Shukra* (Semen)
- *Sattva* (Mental Status)

Persons having the excellence of *Rakta* or blood are characterized by unctuous, red colour, beautiful dazzling appearance of the ears, eyes face, tongue, nose, lips, sole of the hands and feet nails forehead and genital organs, enthusiasm, tenderness, moderate strength and inability to face difficulties their body remains hot. The essence of food known as *Ahara Rasa* is formed first by the action of *Jatharagni* (gastric juice- hydrochloric acid in particular) in the *Amashaya* (stomach) and is a partially digested product. It passes through the *Grahani* (duodenum) gets mixed with *Acchappitta* (bile and pancreatic juice) reaches the *Pachyamanashaya* (small intestine). There it undergoes further digestion by the action of *Bhutagni* (metabolic process). After these activities are complete, the first tissue known as *Rasa Dhatu* (chyme) gets formed. This is a white, thin liquid containing nutrient materials essential for the formation and growth of other *Dhatu*s (tissues). This *Rasadhatu* travels all over the body constantly supplying nutritive materials (*Dhatuposhaka*/poṣaka *Dhatu* or *Asthayi Dhatu*) to other static tissues (*Sthayi* or *Po-*

*sya Dhatus*) The ancient view that *Rasadhatu* goes to the *Yakrit* (liver) and *Pleeha* (spleen) obtains red colour there and becomes *Rakta Dhatu* (blood) can be explained to some extent. Some portion of the chyme absorbed from the small intestine goes to liver and spleen and from there reaches the heart. A red pigment called haemoglobin is synthesized in these organs (especially the liver) and is instilled into each of the RBC (red blood corpuscles) which are in great number and so make the entire fluid deep red in colour; when a little quantity of blood is taken out, kept in a glass test tube, and prevented from clotting, after a few minutes, we see two distinct portions separately, a thin watery liquid white portion, more in volume at the top and thick, red, slimy portion at the bottom; the fluid portion at the top is called plasma and is equivalent to *Rasa Dhatu*, the thick red slimy portion at the bottom comprises of blood corpuscles- red and white and also platelets; this is equaling to *Rakta Dhatu*. Both the portions remain together always and circulate throughout the body constantly (*RasaRakta Sahacara* and *Rasa Samvahana*)<sup>5</sup>.

#### Functions of Blood<sup>6</sup>

##### Respiratory functions

The hemoglobin (Hb) of the RBC picks up oxygen from the lung and circulates- eventually discharges it (the Oxygen) to the needy (hypoxic) tissues. For this, both the Hb and RBC are ideally designed. Also, the CO<sub>2</sub>, produced by the tissues is partly taken up by the Hb and partly by the plasma, eventually the CO<sub>2</sub>, is disgorged into the lungs and breathed out. Death due to very severe acute hemorrhage (e.g., slitting the carotid arteries) is due to acute lack of O<sub>2</sub>, and accumulation of CO<sub>2</sub>, in vital structures like brain.

##### Excretory function

Various waste products (eg. Urea) are carried by the blood and ultimately removed by kidney.

Nutritional function, End products of digestion are absorbed from the gastrointestinal tract and transported to the liver by the blood for more processing of the absorbed materials (from the liver, the processed materials go to the tissues).

##### Role in homeostasis

Some examples of role of the blood in the maintenance of homeostasis are given below:

- a) Body temperature (thermal homeostasis) if the temperature of the body rises too much, enzymes of our body deteriorate. However, if there is a threat of elevation of body temperature, it is resisted to some extent by blood as follows the specific heat of blood is high therefore it can absorb good deal of calories without showing a rise of temperature. Also, the blood has a high conductivity, if an organ (eg. Liver-due to high level of metabolic activity) becomes hot, the heat is transferred by blood to different areas of the body (e.g., to the skin where from the heat goes to the exterior or the skin is cooled by sweating).
- b) pH- If the pH of our body is altered, the enzymes become defunct. Due to metabolic activities, our body produces large quantities of acids-yet the pH of the body tissue does not change. The blood contains buffers which up to a limit can prevent the alteration of pH.

##### Role in body's defense

Blood contains neutrophils and monocytes which can battle with the various bacteria and kill them (the bacteria). The blood also contains various components of the immune system (e.g., T lymphocytes, B lymphocytes, antibodies, complements) which can battle with the bacteria-virus and even cancers.

##### Transport

Blood also transports various drugs, chemicals, hormones, etc.

##### Composition of Blood

The two fundamental components of blood are: (i) plasma, and (ii) formed elements (also called cellular elements).

A complete blood count CBC is a blood test that measures many different parts and features of blood including.

- I. Red blood cells.
- II. White blood cells
- III. Platelets
- IV. Hemoglobin
- V. Hematocrit
- VI. Mean corpuscular volume (MCV)

A complete blood count is a common blood test that is often part of routine checkup. Complete blood test counts may help detect a variety of disorders including infections, anemia, diseases of the immune system, and blood cancers etc.

#### MATERIAL AND METHOD:

The present study entitled “Study of Raktasara Purush with special reference to Liver Function Test” has been carried out in the Department of Rog Nidan Evam Vikriti Vigyan, Faculty of Ayurveda, and Government Ayurvedic College and Hospital Kadamkuan Patna Bihar. The study was conducted on 120 Students randomly selected from different semester of Bachelor of Ayurvedic Medicine and Surgery (BAMS) of different years of PG scholar including internees from Government Ayurvedic College and Hospital Kadamkuan, Patna and Students are living around the college. All Raktasara students were found fit for further detailed survey study. A proforma was designed incorporating the sign and symptoms of Raktasara person as described in Samhitas and the hematological and biochemical laboratory parameters. To co-relate Raktasara Purush with hematological and biochemical parameters (Liver Function test) apparently healthy individuals were taken in the study. For each characteristic, grading was done, and scores were allotted on the basis of total scores obtained, the subjects were divided into three categories, Pravara (individual with excellent tissue quality), Madhyam Sara (Individual with Moderate tissue quality), and Avar Sara (individuals with poor tissue quality).

Survey proforma inducted:

- History taking
- Physical examination (by vision), psychological assessment
- Metabolic or functional assessment and
- Also, the laboratory assessment of the blood indices. The parameters of the survey were based on Sara Lakshanas described in Charak Samhita viman sthan.

#### AIM AND OBJECTIVES:

The objectives of this study were -

1. To find out significant relationship between Rakta Sarta and CBC.
2. Implementation of these findings in early diagnosis and prevention of disease pertaining to Rakta Dhatu and blood formation.

#### DISCUSSION

Ayurveda is the earliest School of Medicine known to human beings based on observational and logical. There is no acceptance of any conclusion which does not support any proper logic. Discussion is the process to re-examine the whole work and is an integral part of any scientific work. It is already mentioned in Charak Viman sthan 8<sup>th</sup> that before establishing any theory the findings should be subjected through some sequential steps to draw conclusion from findings and results of the research work discussion is needed. It is really a fact that Ayurvedic scholars have identified a hemopoietic factor to be present in stomach, liver and spleen long before 10<sup>th</sup> century B.C. In 1928 showed, the presence in the gastric tissue of the material necessary for the formation of antianemia factor. The hemopoietic principle stimulates the bone marrow to produce RBCs. In case this factor becomes lacking the bone marrow produces premature RBCs without proper hemoglobin content in them.

The present study “study of Raktasara Purush with special reference to liver function test” has to discuss in the terms of subjective result and laboratory result finding.

1. Laboratory test, and
2. Observation and result.

The mean value of laboratory parameter has fallen within normal range. This survey study shows that maximum subjects were found within normal laboratory parameter. It shows that the maximum was healthy in laboratory values also. Textual symptoms score and hemoglobin were very highly significantly associated ( $p = 0.001$ ) ( $p < 0.001$ ).

Chi-square test of association between textual symptoms score and RBC counts were found to be significant ( $p=0.018$ ) ( $p < 0.05$ ). Chi-square test of association between textual symptoms score and TLC was found to be not significant ( $p=0.601$ ) ( $p > 0.05$ ). This

indicates that statistically not significant and hence *Raktasarta* is independent of TLC. Hb% measures the number of red blood cells. TLC measures the total number of white blood cells, which if high in number indicates an infection. DLC measures the consistency and structure of white blood cells. So *Raktasarta* depends on red blood cell counts not on total leucocyte counts.

## CONCLUSION

Conclusion is the essence of all the efforts put together accomplish the proposed study, the conclusions drawn from the present survey study are as follows.

Maximum subjects were found within normal laboratory parameter.

*Raktasarta* depends on hemoglobin (Hb %).

*Raktasarta* depends on red blood cells (RBCs) counts.

*Raktasarta* is independent of TLC (Total Leucocyte Counts).

*Raktasara* subjects have very good quality of blood with normal CBC.

*Raktasara* subjects have good immunity and disease-free status means *Sukhi* and *Arogya*. This study can be used as a model of standardization of other *Sara* and other area of field of *Ayurveda* where examination is based on subjective parameters. *Sara* examination is very important prior to physical training, choice of job, intake of diet, and many more of drug in daily life to the individuals in clinical practice.

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