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Ayurveda

AN OBSERVATIONAL STUDY OF RAKTA PARIKSHA ACCORDING TO THE *PRAKRITI*

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ABSTRACT

Background: - *Rakta* (blood) is very important element of our body which is essential for survival of life. In *Ayurveda*, there are *Sapta Dhatus* (seven tissue) in our body. *Rakta Dhatu* is one of them. *Rakta dhatu* is also important for sustenance of life. And responsible for the existence, support and maintenance of body. *Rakta* itself is life, Hence, needed to protect them by every approachable measure.

Aim: - Study of the *Rakta Pariksha* and *prakruti* in perspective of *Ayurveda* and Standardize various parameters of *Rakta Pariksha*.

Material and Methods: - This study carried out one pilot study to standardize all parameter in 5 healthy volunteers. After that this study carried out in randomly selected 50 Healthy volunteers of *Subhodeep Ayurved* medical college Indore m.p.

Result: - In this study first of all, we standardized all the described parameters such as site of blood collection, cloths for staining, water, amount of blood, colour of blood, and analysed it in 50 healthy volunteers the result showed significance relation between *Gunja* varna of *Rakta* and *Kapha pradhana Pitta Madhya Vata heen* aprakriti which was statistically significant. Pearson Chi-Square test was carried out at *P*-value P <0.05, P<0.01, P<0.001 significance level.

Conclusion: - For future, we can establish another test in *Ayurveda* by more research study whereby it can be useful for health monitoring.

KEYWORDS : *Rakta Pariksha*, Standardization of *Rakta Pariksha* Blood examination, *Prakriti* etc.

INTRODUCTION: -

Acharya Sushruta has described *Rakta dhatu* as fourth *Dosha* in the body. He stated that *Vata*, *pitta* and *Kapha* are the cause of genesis of body. They are situated in the lower, middle and upper parts of the body. They maintain the body like a house supported on three pillars, when they are vitiated, they bring about destruction. Likewise, *Shonita*, the fourth *Dosha* is also present during origin, existence and destruction of body. There will be no existence of the body without *Kapha*, *pitta*, *vata* and even *Shonita*. The body is always supported by these [1]. Commentator *Dalhana* explains the reason as to why *Sushruta* gave so much importance to *Rakta dhatu*. He states that *Sushruta*, as surgeon had to primarily think about *Rakta dhatu*. *Sushruta* told that body is basically dependent on food and four factors are responsible for any deviation of body from its homeostatic status namely *Vata*, *pitta*, *kapha*, and *Rakta* [2].

Charaka also give importance to *Rakta dhatu* equal to *Dosha* but he does not accept the proposal of *Sushruta* about *Rakta* as fourth *Dosha*. Living creatures are endowed with strength, complexion, happiness and longevity due to pure blood. Blood plays a vital role in the sustenance of *Prana*. Pure blood can be likened to gold (purified with fire), *Indragopa*, red lotus, lac, fruit of *Gunja* (Abrus precatorius) in colour [3]. These are various shades depending upon individual. Individuals who have *Uttama rakta dhatu sarata* are endowed with following features: - ears, eyes, oral cavity, tongue, palms, soles, nails, forehead, penis; all these organs are of red color. These organs are very lustrous, glossy. Such individuals are very attractive, handsome. They cannot sustain strenuous job or hot climate. They are endowed with intelligence, happiness and beauty [4].

According to *Ayurveda* every individual is exclusive. Not only each individual has different size and shape but its physiological characters are different. This is often due to predominant *Dosha* at the time of birth which decides their constitution (*prakriti*). ones this constitution is made, it's permanents for that individual. Some person of *Ek-doshaja prakriti* i.e.*vatika prakriti* ,some of *pattika prakriti* and some of *kaphaj* ,other are *dwandwaja prakriti* and yet one more of *sama prakriti* (equilibrium of all the three *doshas*). person of *sama prakriti* are always healthy and of *vatika* always ailing [5].

According to *chakrapanni dutta*- The pure blood red in color. the factors of blood are less or more in number due to *vattik, pattik, sama prakriti* of human being. *Sama prakriti* person have blood as *indragopa* in color. Rest of *prakritis* have blood as *tapandriye swarna* (gold), *Rakta kamal, lakcha rasa* or *Ratti* in color. if proper care is not taken for the maintenance of this *Rakta* and constitution it may lead to certain diseases. prakriti is one of the fundamental concepts of *Ayurveda*. therefore, each individual must know his own constitution. (i.e. prakriti) [6]. Almost all the *acharyas* has described about the *Rakta and Rakta Pariksha*, *Acharya Dalhan* has nicely described about *Rakta*, He said that the pure *Rakta* colour is happen to be like *Indragopa*, it is not very thick, not too viscous and it is not clotted very soon. He said that the pure blood is also in colour as *Padmaalaktaka Sannibham* and *Gunajaa-Falam Savarnam* which is something different in colour as *Indragopa*. And when any cloth gets stained by it. It is easily washed off [2].

Rakta Pariksha was being used in *Ayurveda* in the form of the physical aspects and some relevant examinations. But there are not described any guideline in text such as site of blood draw, amount of blood, type of cloth, time of blooding and clotting etc. Hence, first of all we set the parameters of *Prakrat Rakta* and standardized them and correlated with blood component. Whereby we can use it for further study.

AIM AND OBJECTIVE: -

- Study on features of *Rakta Pariksha* in perspective of Ayurvedic texts.
- Standardization of *Rakta Pakriksha*
- Evaluation of *Rakta Pariksha* according to *Prakriti* in Healthy in volunteers.

MATERIALS AND METHODS: -

This study carried out one pilot study to standardize all parameter in 5 healthy volunteers of shubhdeep *ayurved* medical college indore m.p. In standardization of the procedure, we were planned to standardize various aspects of *Rakta Pariksha* namely Site of collection, Colour, Volume, Type of Cloth, Staining time and duration. After that this study carried out in 50 Healthy volunteers of shubhdeep ayurved medical college indore m.p.

Inclusion Criteria: -

- Male or Female Aged 21-40 years
- Healthy Person
- Person willing for study

Exclusion Criteria: -

- Age < 21 and > 40 years
- Suffering from acute and chronic illness

Assessment Criteria: -

Assessed the *Prakriti* all Volunteers by prepared chart Laboratory Investigations Such as- HB, CT, BT, ESR, PCV, TLC, DLC and PLT etc.

Statically analysis: -

The information gathered on the basis of Ayurveda and modern science was subjected to statistical analysis. In this study, all parameters are subjective, the number of groups is only one and number of patients is fifty (n = 50). Therefore, **Pearson Chi-Square test** was carried out at *P*-value P <0.05, P<0.01, P<0.001 significance level.

OBSERVATION AND RESULT: -

The Data collection from healthy volunteers' study was analysed under two heading: -

Pilot Study Analysis: -

We have taken 5 test- subjects for 'pilot study'. According to study the amount of blood collected was 20 microliters from Artery, Vein & Capillaries, respectively from each individual. From the venous blood collecting was easier other than Artery and capillary blood. Duration noted for the drying of blood in the Arteries, Veins & capillaries is generally 35-50 min. Veins blood drying the quickest, i.e. 37 min. than the other two. We've taken 3 types of Cloth (signature) to wash away the stain i.e. Silk, mixed & cotton. Since 2-3 min. are required to wash away the blood-stain from all the clothes, but mixed cloths blood stain gets washed away easily than others i.e. 1-2 min. in normal water & 2-3 minutes in detergent water. There are no such differentiable variations in haematological parameters from Atrial, Venous & capillary blood.

Fig.No.1 Arterial Blood Collection

Fig.No.2 Venous Blood Collection

Fig.No.3 Capillary Blood

Fig.No.4 Types of Cloths

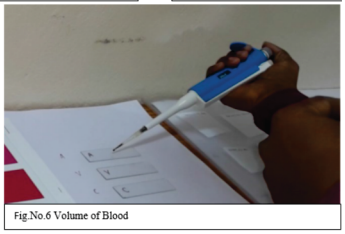

Fig.No.6 Volume of Blood

Fig.No.7 Stained Various Cloths

Fig.No.8 Washing the stained

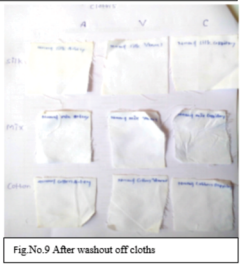

Fig.No.9 After washout off cloths

Research analysis

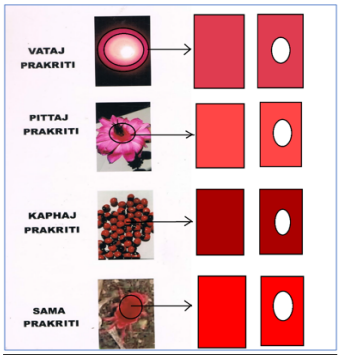

Fig.No.10 Prepared Colour chart According to Prakriti for Assessment of Rakta colour

Table No.1 Prakriti and colour of blood in 50 healthy volunteers

Prakriti	Color			Percentage
	Gunja	Indragopa	Rakta Kamal	
KPV	33	0	0	66%
KVP	1	0	0	2%
PKV	10	3	1	28%
PVK	0	0	2	4%

	Value	Df	P value
Pearson Chi Square	41.991	6	.000
Likelihood Ratio	23.760	6	.001
N of Valid Cases	50		

Table. No.1 shows Out of 50 healthy volunteers, the maximum 33 (66%) healthy volunteer belong to *kapha pradhan pitta Madhyam heen vata* (KPV) compare with *gunja Varna* of blood and the statistical analysis shows that result was Highly significant at the level P value < .000

Table No. 2 Prakriti and HB% of 50 healthy volunteers

Prakriti	Hb %			Percentage (%)
	10-13 GM	13.1-16 GM	16.1-19 GM	
KPV	1	25	7	66%
KVP	0	1	0	2%
PKV	7	6	1	28%
PVK	0	1	1	4%

	Value	Df	P value
Pearson Chi-Square	18.353	6	.005
Likelihood Ratio	17.106	6	.009
N of Valid Cases	50		

Table No. 2 shows Out of 50 healthy volunteers, the maximum 1 (2%) healthy volunteer belong to 10-13 gm/dl hemoglobin, 25 (50 %) healthy volunteer belongs to 13.1-16.0 gm/dl hemoglobin,7 (14 %) healthy volunteers belongs to 16.1-19.0 gm/dl hemoglobin, having to *prakriti* in *kapha pradhan pitta madhyam heen vata* (KPV) and the statistical analysis shows that result was significant at the level P value < .005.

DISCUSSION: -

Site of Blood Collection: - For this pilot study we were blood collected from Artery, Vein & Capillaries and result was compared with each other. There were not found any significant variation in result, therefore we chosen the vein for blood collection because venous blood collection method is easy and none complicated. Arterial Blood collection is complicated and septic technique, their identification is not too easy and sterilization procedure cannot be maintained in routine practice. As Capillary blood collection method is very easy, but in this method cannot be collect sufficient blood for another test.

Volume of Blood: -For this study fixed 20 microliter blood volume was used for cloth staining, matching and haemoglobin test etc.

Selection of Cloth: - Various clothes were used for staining i.e. cotton, silk and mix. Normally blood stain easily washed off from these cloths, but mixed cloths blood stain gets washed away easily than others. Hence, mixed cloth used form study.

Washing Solution: - Normal water and detergents mixed water both waters were used for washing the stain cloths, but normal water is preferable for best for study. Because the normal water is easily available without any expenses.

After the above Standardize method the study carried out in 50 healthy volunteers, we are find out that is the maximum number of 50 healthy volunteers, 33 (66%) healthy volunteer belong to *kapha pradhan pitta madhyam heen vata* (KPV) *gunja* color , 10 (20%) healthy volunteers belongs to *pitta pradhan kapha madhyam heen vata* (PKV) on *gunja* color, In this Study, most of the volunteers are found kapha pradhan prikriti and the most of the data is directly related to *Kapha pradhan prikriti* which is highly significant statistically. But *Pitta Pradhan prikrit* is found less (with two groups) and we did not find even a single volunteer of *Vata Pradhan prikriti* and *Sama prikriti*. Because the all-volunteer belonged to the healthy group. *Acharaya Charak* also mentioned about the *Kapha* this is the strength of our body, when it is present in normal form and equal amount [7]. Hence, mostly volunteer

was found *Kapha Pradhan Prakriti* and *rakta* varna of volunteer was dark bright red i.e. like the *Gunja Varna*.

Regarding to Hb observation also found according to normal blood constituents such as, Haemoglobin 1 (2%) healthy volunteer belongs to 10-13 gm/dl hemoglobin, 25 (50 %) healthy volunteer belongs to 13.1-16 gm/dl hemoglobin , 7 (14 %) healthy volunteers belongs to 16.1-19 gm/dl hemoglobin , having to *prakriti* in *kapha pradhan pitta madhyam heen vata* (KPV). Colour of blood mainly depend upon the haemoglobin concentration and their molecules i.e. iron, protein and alpha and beta chain. Haemoglobin facilitate the oxygen and carbanmonoxide transportation. It has important role as buffer which maintain the internal environment of the cell and human body. Aging and defects in the cell can also kill the red blood cells, accumulating various physiologically active catabolites [8].

Drying time of stained cloth maximum number of 33 (66%) volunteers noted. Similarly, Stained cloth easily washed off that is maximum number of healthy volunteers belongs to *kapha pradhan pitta madhyam heen vata (KPV)*. The above finding has proved that the pure *Rakta* is not very thick, not too viscous and it is not clotted very soon. And when any cloth gets stained by it. It is easily washed off. And Almost all volunteers having bleeding time and clotting time in normal range. But this above result not found statistically significant.

CONCLUSION: -

In this study, *Kapha prdahan Pitta Vataj prakriti* was found in mostly volunteers and accordingly character of blood was too similar to the *Gunja Varna*, which is say that by the *acharya Chakrapani* [6]. Similarly, The Haemoglobin level was found as found in normal individual. These blood not to bleed abnormally not clot too early. Cloth gets stained by blood. It is easily washed off. According to these results we can said that these parameters fit for the assessment of *kaphaj prakriti* person. And it is found that it requires large number of samples to evaluate *prakriti* and its blood color matching. As we have taken 50 volunteers for study which is not sufficient, that's why *vata* prakriti and *sama prakriti* was not found hence more samples require for this study which may provide a good result in future.

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