

A CRITICAL ASSESSMENT OF RAKTAMOKSHAN AS ELEMENTARY METHOD OF SHODHAN IN PANCHAKARMA THERAPY

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ABSTRACT

Panchakarma is very effective process of *Shodhan* karma in *Ayurveda*. There are different types of *Shodhan* therapies has been described in *Samhita* like *Vamana*, *Virechana*, *Raktamokshana* etc. out of which *Raktamokshana* is considered as best therapy for *Pitta* and *Rakta Pradoshaj vyadhi*. Many *Acharya* consider *Rakta Dusti* as one of the prime causes of *Pittaj* and *Raktaj Vyadhi*. *Rakta* along with *tvak* usually become the leading *Dooshya* in most of the skin diseases. So *Raktamokshana* by different modalities is much more effective in resolving pathogenesis in these diseases. There are many historical evidences where *Raktamokshana* was extensively practiced. During the procedure preoperatively, indication and contraindication are analyzed.

Instruments are collected depending on the wisdom of the surgeon, site, disease and availability instruments. *Acharya Sushruta* has encouraged modification of instruments as per necessity. *Acharya Sushrut* who was greatest authority of *Rachana Sharir*, has been explained special sites of *Sira* for *Vyadhana* according to the diseases and their *Adhithana*. In classics, it has been advocated that the bloodletting should be done when atmosphere should not be too cold or too hot; because environmental stimuli can cause *Heena-Mithya-Ati Srava* of *Rakta*. During the procedure it is necessary to decide the quantity of blood to be letted out. As per classics, one *Prastha* has been advocated which is *Uttama Shodhana*. Automatic stoppage of blood after certain time is an indication of *Samyak Siravyadha*,

associated with patient feels light and severity of illness is decreased. So due to the wide spectrum, much prevalence in society and lack of effective management of *Rakta Pradoshaj Vyadhi*, it is necessary to understand the concept of *Raktamokshana* in scientific way in the light of modern science and develop the this therapy as safe and effective treatment modalities for the management of *Rakta Pradoshaj Vyadhi*.

KEYWORDS: *Raktamokshana, Shodhan Karma, Adhithana, Raktamokshan, Panchakarma.*

INTRODUCTION

Acharaya Charaka, describes the five process of *Shodhana* under the heading of *Panchakarma* as *Vamana* (emesis), *Nasya* (administrating medicine through the nasal passages), *Virechana* (purging) and two types of *Basti* (cleansing and nourishing enema). while *Sushruta* combined the two types of *Basti* into one category and added *Raktamokshana* – the therapeutic withdrawal of blood from the body – as the fifth major procedure used in *Panchakarma* therapy.

In *Ayurveda* the blood is said to be carrier of *Ayu*, or life, so its condition directly influences the four parts of life: soul (*Atma*), mind (*Mana*), senses (*Indriya*) and body (*Sharira*). Good blood, free from toxins and waste products, sustains life and helps maintain the physiological balance necessary for health. There are so many allergic conditions, systemic and skin diseases occur due to imbalance or toxicity of the blood. There is necessity to removal of the noxious blood from the body for the better management of the blood born diseases.

In the past Blood removal is a recognized treatment of polycythemia and hemochromatosis. Exchange transfusions are used in hemolytic disease of the newborn. The phlebotomist makes his daily rounds in hospitals and physicians' offices around the world. Now bloodletting is used primarily for diagnosis rather than for treatment, and the lancet and fleam have been replaced by the syringe and needle. Blood loss for diagnostic testing in modern hospitals can be considerable. With some philosophic reflection, one might wonder whether or not the loss of blood could have any therapeutic benefit. Does the acute withdrawal of blood stimulate the defense mechanisms of the body? The body is known to respond more promptly to acute blood loss than to chronic loss of small amounts. It seems hard to believe that the many educated observers over the centuries were completely wrong in their assessment of clinical improvement following bloodletting. Whether bloodletting represents

treatment or mistreatment continues to depend on the evolution of our ideas as to the basic causes of disease. Perhaps someday a rational explanation for the popularity of bloodletting will be found. A closing quotation from the year 1935 by Randolph seems appropriate. "With alternating periods of excess and moderation it is about the only remedy that has held its own throughout our history."^[1]

Raktamokshana therapy is the blood cleansing and purification therapy. It is a therapeutic cleaning process given by *Ayurveda*. It is one of the essential parts of the *Panchkarma* healing treatments. It is the prime process of blood detoxification. It is derived from the two words, "*Rakt*", which means blood and "*Mokshana*", which means leave. Thus, *Raktmokshana* means to let the blood out. The blood is expelled out from the body to reduce the quantity of toxic substances in the blood borne disorders. However, this therapy is not generally recommended to the patients. This is because; it involves a certain amount of risk factors in the whole cleansing and detoxification processes.^[2]

Though *Raktamokshana* is the most limited of the five major procedures, it provides a rapid and sometimes dramatic decrease of symptoms in certain acute disorders, especially where time is a critical factor. When toxins appear due to excess *Pitta*, they concentrate in the blood. In situations, when *Pitta* symptoms must be reduced quickly and there is no time for *Purvakarma* (preparation for *Panchakarma*) and *Panchakarma* procedures, acute symptoms can be relived within hours by simply removing a small amount of toxic blood from the affected area. After that the patient can be put on a *Panchakarma* regiment.

Classification of *Raktamokshana*

1. *Shastra Visravana*

Generally metallic instruments are used to carry out this process. It is further classified into two more categories.

- ***Pracchana***- In this process letting the blood has been done by making several incisions.
- ***Siravyadha***- This process is also known as the Venepuncture in which removal of blood is done by using of scalpvein or syringe.

2. *Anushastra visravana*^[3,4]

In this procedure the metallic instruments have been not considered for removal of the blood. It is further classified into three categories:

- **Jalaukavacharana**^[5]: It means applying leeches. This is mainly done for the patients with *Pitta dosha* disorders, children, ladies, physically and mentally weak patients.
- **Alabu**: It means creating vacuum and extracting blood through the vacuum using a vegetable, which may be bottle guard or *Alabu*. This is mainly done for treating *Kapha dosha* diseases.
- **Shrungavacharana**
- It means applying the cow's horns. This is mainly taken into account for treating the *Vata* disorders.

Among all the various classified types, Venepuncture or *Siravyadha* plays the most popular role in carrying out *Raktmokshana* effectively in present era.

Indications of *Raktamokshan* Therapy^[6]

Individuals with aggravated unbalance between the blood (*RAKT*) and *Pitta Dosha* and high level of toxicity are recommended the *Raktmokshana* therapy. The important complications to be treated with the therapeutic therapy are skin disorders like allergic dermatitis, eczema, sciatica. Some other disorders, which must be treated with *Raktmokshana* therapy, include abscess, edema, swelling and inflammations, uremia, dullness, pericarditis, tonsillitis. Also, this procedure helps in proper functioning of liver, heart and other essential organs of the body.^[7]

- *Purva Karma*(Pre procedure)
- *Pradhana Karma*(Main Procedure)
- *Paschat Karma*(Post procedure)

Purva Karma

The patient who is ready for *Raktamokshan*, he should be give oiliation and sudation therapies and also give liquid food or *Yavagu* which are opposite in qualities of the aggravated *Dosha*. Suitable time should be selected for the process and patient should ask to seat near by the physician for the *Pradhan Karma*. The patient should be tied with cloth, leather, inner bark of trees or any other material without endangering his life, neither very firmly nor very loosely. Then search and confirm the site on the body of patient for *Raktamokshan*.

Pradhana Karma: There are various aspects to be considered during *Pradhana* karma are as following.

- **Prachhana** – This method helps to provide relief from stress, tension and anxiety.
- **Siravyadha** – According to the disease, the vein is selected. After oleation, sudation, the liquid gruel is injected. The patient either lies down or sits in erect posture.
- **Size of puncture** – The size should be that of 1 *Brihi* or half barley and in muscular areas, it should be the size of *yava*.
- **Jalaukavacharana** – Tiny sized pin pricks are applied near the affected region. As soon as the blood oozes out, the leech is applied. When the leech sucks, the mouth takes the form of the horse's hooves. Its neck is then covered using wet cotton. When enough blood is sucked, the leech leaves the area and moves down. In case, it does not leave on its own, turmeric powder is sprinkled on the leech.
- **Shringa Yantra** – The horns are applied on the fleshy part of the body. The air gets sucked out, which creates a vacuum. The blood oozes out.

Paschat Karma

After the *Pradhana Karma* is done, dressing is done with a massage gently surrounding the wound. This is done with the help of the medicated oil.

Raktamokshana works as a preventive therapy and curative therapy as well. This therapy in *Ayurveda* is a partial or a complete treatment depending on the situation.

Raktamokshana according vitiated Dosha

The blood vitiated by deranged *Vata* should be sucked through horn, because cow's horn possesses *Madhura* (sweet), *Snigdha*(smooth), *Ushana*(hot) characters which are the opposite character of *Shita*(cold) and *Ruksha*(rough), of *Vata*; as well *Madhura Rasa* is itself *Vata Shamaka*. The *Pittaja* vitiated blood is to be removed by application of *Jalauka* (leech), which are born in water possessed of *Madhura* (sweet or soothing) properties and *Ushana* and *Katu* to expel the *Pitta Dosha*. The blood vitiated through the action of the deranged *Kapha* is to be let by the gourd, as it (*Alabu*) is pungent, parching and irritating in its potency, which have definite action against the *Madhura*, *Shita*, *Snigdha*, properties of *Kapha*.^[8]

In the word of *Vagbhata*, he says that the *Pittaja* vitiated blood should not be drawn by *Alabu* or *Ghati yantra* as it has the *Ushana* potency; which is more preferred for the depletion of *Kapha Vata* vitiated blood. He adds that the blood vitiated by *Kapha Dosha* should not be sucked by *Shringa* (horn), because it coagulates the blood, so by *Shringa* the *Vata-Pittaja* vitiated blood is to be expelled out (drawn out). But now it can be inferred that these appliances may be utilised considering the nature and disorder of *Doshas*.^[9]

***Raktamokshana* according to the strength of patient**

The commentator of *Susruta Samhita*, *Dalhana* has opined that the use of different appliances depends upon the strength of the patient. He says that the *Shringa*, *Alabu* and *Jalauka* should be used to the persons of delicate constituents (*Sukumar*) like child, women etc. and excess delicate constitutions (*param Sukumar*) like King, old man etc, responsively. The blood depletion by leech is not painful, and the strong, stout person is to be treated by *Prachanna* and *Siravedha*.^[10]

***Raktamokshana* according to the state of Rakta**

The vitiated blood in any part of the body should be abstracted therefore by scarifying (*Prachanna*) it, by cupping it with syringe (pipe), a horn, a gourd, or leeches or by the opening of the vein respectively, according to the density of the blood. Other assert is that leeches should be applied in the case of the blood being confined deep into the body, scarification with a surgical instrument should be made in the case of clotted blood. Horn or a gourd is used in the case of the deranged blood having seated in the skin.^[11]

In this regard the commentator *Dalhana* gives his view that the vitiated blood should be sucked following the site of blood, as deep, deeper, deepest, from the skin to the parts of the body by *Prachanna*, *Jalauka*, *Alabu* and *Shringa* respectively. *Siravyadha* should be applied in the case of whole vitiated blood.

Precise time for *Raktamokshana*

1. Generally the *Pitta Dosha* provoked in the *Sharad* (autumn) season. *Rakta* vitiation is induced by *Pitta* provocation. So that in the autumn *Rakta Mokshana* should be carried out.
2. *Sushruta* has further specified that blood-letting should be performed on a patient not in an extremely hot or cold season, neither on one who is too much heated or improperly heated.(before the act of bloodletting).^[12]

In addition to these prescribed periods are

- a. In rainy season, but in clear sky
- b. In summer season, but in cool time
- c. In *Hemant Ritu* (autumn), but in the noon.

The above cited periods are suitable for *Rakta Mokshana*. Beside these the time factor depends on the condition of the disease and the state of the patient in which the surgeon has to take his own will for *Raktamokshana*. (su.sa.8/19)

In this context *Vagbhata* describes that if any process of treatment demand is necessary and the unfavourable season does not warrant at procedure necessary to safe-guards to prevent the effects of the untoward season should be taken and the necessary measure is to be pushed in all urgent cases. A necessary measure of treatment should not be out off on that account i.e. on account of unfavorable season etc. One should not waste the valuable time available for treatment of the disease.^[13]

Rakta Visravana Pramana: The blood is the life. It should be depleted to a certain limit in its treatment. An intelligent surgeon should not allow the flow of blood to an excess but should stop the flow even with a remnant or the diseased blood in the system.^[14]

Bleeding to the quantity of a *Prastha* (approximate 54 *tola*) measure should be seemed sufficient for a strong and adult patient stuffed with a large quantity of deranged *Doshas* in the body.^[15] In the word of *Dalhana* one *Prastha* is equal to 13 *Pala* for bloodletting. Again directs for bleeding the *Uttam*(maximum), *Madhyama*(medium) *Adham*(minimum) *Matra* (measures) as one *Prastha*, half of the *Prastha*, and one-fourth of the *Prastha* (*Kudava*) respectively. (su.sa.8/25 *Haranchandra, Dalhana*). This direction has been strongly recommended by *Sharangadhara*, but the author of *Bhaisajya ratnavali* differs expressing 'one *Prasrita*' (8 *tola*) as the quantity of blood depletion.^[16]

Charaka entails that a patient must be bleed according to his strength and the degree of the morbidity of humors, the required purification of blood and the affected site.^[17]

It may be concluded that the *Raktamokshana* should be done seeing the strength of the patient and disease in a minimum quantity and in the emergent state; it should be bled up to suitable limited quantity.

Atur Siddhata: (Preparation of the patient for Raktamokshana)

Raktamokshana is one of the prime *Shodhana* procedure indicated by various *Acharyas*. They are indicating *Snehana* and *Swedana* before all *Shodhana* procedure. Regarding *Raktamokshana* *Sushruta* indicate both *Snehana* and *Swedana* before procedure as *Poorvakarma*.^[18] *Poorvakarma* are indicated for liquefaction of *Dosha* and make them mobile into blood.^[19] We are removing vitiated blood containing that liquefied *Dosha* so it's mandatory to done total process of internal *Snehpana* and *Swedana*

***Samyak Srava Lakshana*^[20]**

Automatic stoppage of blood after certain time is an indication of “*Samyak Siravyadha*” and it also indicates that complete vitiated blood is expelled out. Then patient feels light, pain subsides, *Rogalakshanas* are decreased called “*Samyak Viddha*” *Lakshanas*.

***Asamyak Srava Lakshana*^[21]**

“*Asamyak Sravita*” *Rakta* will cause *Daha*, *Raga*, *Pakadi Lakshanas* when *Siravyadha* is done in hot conditions, *Adhika Swedana*, *Atividdhata* will cause *Atisrava Laxanas* like *Shirobhitapa*, *Adhimanta*, *Timira*, *Dhatukshaya*, *Akshepaka*, *Pakshaghata*, *Yekangaroga*, *Hikka*, *Swasa*, *Kasa*, *Pandu* and lastly *Marana*. When position of the patient is not proper, when *Sira* is not prominent or *Shastra* is not sharp. If *Swedana* is not given properly, just after meals *Mada*, *Moorcha*, *Srama* occurs. In these conditions, even though after *Samyak Siravyadha* also *Samyak Rakta Srava* is not taking place.

In persons who are strong, who have great accumulation of *Doshas* and who are of suitable age, experts desire, one *Prastha* (640 ml) of blood be allowed to flow out after venous puncture. At once completely whole vitiated blood should not be letted out, for remaining *Dosha Shamana Chikitsa* may be followed according to *Rogabala*, *Rogibala* the fixed quantity of blood is letted. *Uttama*– 1 *Prastha*, *Madhyama*– ½ *Prastha*, *Vagbhata* says that 1 *Kudava* or 3 *Pala* or 13 *Tola* may also be letted out to prevent the complications.

***Paschat Karma*^[22]**

Stopping of Blood: After successful *Raktamokshana* blood should stop by itself. If bleeding does not stop by itself, then pressure was given by cotton for 2-3 min.

Complications: The following immediate complication may be occurring during bloodletting.

- 1) *Ati Rakta Srava* (excess flow of blood)
- 2) *Asrav* (unflow of blood)
- 3) *Alpa Srava* (less flow of blood) and
- 4) *Dustavyadha* (faulty puncture).

Other delayed complications may take the shape of disease in the later phase, which can be diagnosed from the symptoms narrated by the patient; e.g. interest in eat acid stuff (*Amla Pradartha*), Impatience to cold things, looseness to *Siras*(*Sira shaithilya*), dryness to the body(*Shareera Rukshata*), paleness to the skin (*parusa* of the skin) are observed in the case of severe hemorrhage. In the long run it may be converted into diseases like *Pandu*, *Kamla*, *Pakshaghata* etc.^[23] The conservative treatment should be prescribed according to the state of distress.^[24]

Dushtavyadhana^[25]: An opening into the body made by an ignorant and unskilful surgeon invites following dangers and many other distressing symptoms.^[26] There are twenty kinds of defects relating to an opened vein may occurred. They are given below.

Durvidha, *Atividha*, *Kunchita*, *Pichita*, *Kuttita*, *Aprasruta*, *Vepita*, *Anutthit-vidha*, *Avyadha*, *Vidruta*, *Dhenuka*, *Punhpunar-vidha*, etc. all these term is self explanatory. It has been seen that the *Apravrita* (not flow) *Atipravrita* (excess flow), *Duspravrita* (bad flow) of blood and *Vaigunya* of *Sira* (defect of vein) are found in these twenty types of defects. All the defects by section according to *Shastra Dosha* (defective instrument), *Yantra Dosha* (fault in bandaging), *Sira Dosha* (faulty Sira), *Atura Dosha* (fault of patient) and *Bhisaka Dosha* (fault of surgeon) are tabulated^[27] as below.

Table No.7: Classification of *Dushtavyadhana*

1	<i>Shastra Dosha</i> (defective instrument)	<i>Punah-punarviddha</i> , <i>Apravidhha</i> , <i>Atyudirna</i> , <i>Pichita</i> , <i>Atividhha</i> , <i>Durvidhha</i>
2	<i>Yantra dosha</i> (fault in bandaging)	<i>Vidruta</i> , <i>Anutthitavidha</i> , <i>Vepita</i>
3	<i>Sira dosha</i> (faulty Sira)	<i>Kunchita</i> , <i>Avyadha</i>
4	<i>Atura dosha</i> (fault of patient)	<i>Aprasruta</i> , <i>Parishuska</i>
5	<i>Bhisaka dosha</i> (fault of surgeon)	<i>Ante-abhithata</i> , <i>Kunita</i> , <i>Shastrahata</i> , <i>Tiryag-vedha</i> , <i>Dhenuka</i> , <i>Kuttita</i> , <i>Marmvidha</i>

Asamyaka Srava

Cause: Regarding this, *Sushruta* explains a mystery that though the performance for bloodletting is perfect still there are some condition in which it does not bleed or les bleed,

viz. blood does not flow out or less flow from an incision. The condition is due to incision into vein of an unconscious, much frightened or much tired or a thirsty patient. An opening of a vein without proper bandaging is raised up is attended with a similar result.^[28]

Asrava

Cause: Blood letting surgically performed on a fatigued or exhausted subject or on a person in lose consciousness or anyway poisoned, or intoxicated or in a person suffering from severe constipation accompanied by suppression of the flatus and urine or on a coward or timid disposition, or on one overcome with sleep, may cause absence of outflow of blood.^[29] As a result the vitiated blood, failing to find out an outlet, gives rise to itching, swelling, redness, burning, suppuration and pain in the part to which it is confined.

Atisrava

Cause: Blood letting performed on the body of the person excessively diaphorised or heated, or by an ignorant or inexperienced surgeon or with an injudiciously deep incision, is done with *Atisrava* (hemorrhage) which may be followed dreadful result such as *Sheerobhitapa* (violent headache), blindness or loss of vision (*Timir*), *Adhimantha* (Ophthalmia), *Dhatukshaya* (loss of vital substance), *Akshepaka* (convulsion), *Pakshaghata* (paralysis), *Ekgangvikara* (Hemiplegia), *Trishna* (thirst), *Daha* (burning), *Hikka* (Hiccough), *Kasa* (coughing), *Swasa* (Asthma), *Pandu* (Anemia), even to death.^[30]

Remedy for Atipravritti of Blood: There are four procedures indicated for the stoppage of bleeding are known; as the

- 1) ***Sandhana* (process by contracting the affected part):** The drugs of astringent are possessed of the property of bringing about an adhesion of the wound i.e. *Sandhana*.
- 2) ***Skandana* (thickening or congealing the local blood):** Cooling measure such as application of ice, spray of cold water etc. tend to thicken the local blood, i.e. *Skandana*.^[31]
- 3) ***Pachana* (process of setting up suppuration in the wound):** Alkalis and Alkaline preparations produce suppuration in such a wound called as *Pachana*.^[32]
- 4) ***Dahana* (process of cauterization):** Cauterization has the property of contracting a vein.^[33]

In the case of *Atipravritti* (excessive flow or hemorrhage), the mouth of the *vyadhana* should be gently rubbed with a composition consisting of the powder of *Lodhara*, *Priyangu*,

Madhuka, Gairika, Sarjarasa, Rasanjana, Shalmali, Shankha, Shukti, Masha, Yava and *Godhuma* and firmly pressed with the tip of the fingers.

Post Raktamokshana Precautions

1. Pariharya Vishaya: Here *Agnirakshaka Vishesha Pathya Yojana* is followed such as *Natisheetoshna Bhojana, Rakta Vardhaka Annapana* should be taken *Vata Prakopaka* activities should be promoted.

2. An ideal diet consisting of cooked *Shasti* grain or matured *Shali* rice *Mudga* pulse as well as the soup of the flesh of an *Ena, lava, Peacock, Tittir*, or deer and such other light food should be prescribed and the complications should be subdued according to the nature of the deranged bodily humors. A patient should be observed a proper up to one month or of recoupment of his health, after having been subjected to a course of blood-letting or treated with a course of *Shodhana* therapy.

Importance of Marma in the context of Raktamokshana

While explaining the contraindications of *Raktamokshana*, *Susruta* has been described that during the process of raktamokshana one should avoid the *Avedhya Sira, Marmasthana*, arteries and nerves etc. *Avedhya Sira* considered as *Marmasrita* and hence should not be venesected. If venesected, it may cause disability or death.^[34]

Benefits of Raktamokshan are as follows: All types of Skin diseases like psoriasis, leukoderma, Hyperlipidemia, Heart Disease, Acne, Obesity, Herpes Infections, Hypertension etc. could be treated with the help of *Raktamokshana*. October to December is a period (Sharad Ritu) in which raktamokshan is advised for general detoxification. A healthy person can undergo process of raktamokshan in this period so as to achieve healthy life.

DISCUSSION

In *Panchakarma Chikitsa*, the vitiated *Dosha* are purified, whereas in *Siravedha* vitiated *dushya* to be let out with *Rakta Dhatu* along with vitiated *Dosha* where *Rakta Dhatu* is predominant. The susceptibility of *Rakta* towards impurity is so versatile that the classics were compelled to agree upon *Rakta* as fourth *Dosha*. Therefore *Dushita* (vitiating) *Rakta* from the related *Siras* (veins) should be let out to protect the health or to remove the disease. Since, *Pitta* is dependent on *Rakta*, therefore *Raktamokshana* decreases the quantum of

enhancement of *Pitta*, henceforth *Dosha* and *Pittaja Vyadhi* are too relieved or cured by the therapy.

Acharya has described different modalities for *Raktamokshana* according to the patient, state of *Rakta* and state of *Dosha*. For *Sukumara* patients *Sastrakrita Raktamokshana* should not be used as they may get apprehensive with its invasive nature and due to that, vasoconstriction occurs and the blood cannot be evacuated in proper amount and chances of *Apravritti* or *Alpapravritti* occur. If it is necessary to do *Sastrakrita Raktamokshana* to that type of patient, the physician has to first explain the procedure to the patient or can also demonstrate the procedure on dummy models and can relax the patient so can avoid *Apravritti* and *Atipravritti*. For use of *Asastrakrita Raktamokshana* *Acharya Vagbhatta* has specially indicated particular modalities for particular *Dosha* and also explain the reasons behind that. In the different methods of *Raktamokshana* different magnitude of negative pressure is produced. The instrument which creates more negative pressure can remove more deeply seated *Dosha*, so here *Acharya* has explained the use of different modalities according to extent. As in *Samyaka Shuddhi Laxana*, *Acharya* has stated that the blood stops by the minimal efforts. It means that to evacuate small amount of blood if we choose a big vein for *raktamokshan* it will lead to *Atiyoga* and if we have to evacuate more blood and small vein is selected so it will lead to *Ayoga*. That means the selection of a superficial site also depends upon the amount of blood to be letted.

In the human body every cell is a basic unit having its own metabolic activity. For this purpose it needs energy, nutrition and excretion which is performed by circulatory and digestive system. In this way homeostasis is maintained. If there is any pathology at tissue level to a great extent there is a need of more fresh blood to metabolise its waste products but the local circulatory system is not able to fulfil this requirement. As a result interstitial pressure gets increased and healing mechanism gets slow due to less blood supply. If we observe the *Siravedhana* sites, most probably they are near to the site of the pathogenesis. By performing *Siravedhana* locally on the vein which drains vitiated blood from that effected part, we can reduce the interstitial pressure and drain the vicious pathological elements of that tissue so the blood supply of that particular part get increase and the healing process of that part can be stimulated.

The *Ayurvedic* principals of *Sodhana Karma* are also indicate that *Doshas* should be removed out of the body from the nearest possible pathway. As the *Rakta* is a *Moola* of the body its

vitiation should also be evacuated out of body from the nearest part of its vitiation. *Acharya Vagbhatta* in *Astanga Samgraha* mention probable mode of action of *raktamokshan*. *Purva karma* is indicated for liquefaction of *Dosha* and mobile them into blood circulation. *Siravedhana* remove that *Dosha* from circulation thus its act on removal of disease.

Raktamokshana is one of the important para-surgical procedure denoting letting of impure blood outside the body. Different modalities of *Raktamokshana* can be adopted, but *Siravyadha* is one of the *Shastravacharana*. Of course, it appears to be surprising that different sites have been advocated in different diseases. To analyze this context, different hypothesis and patho-physiological mechanisms are applicable as the basic unit of the body is cell. Each cell is especially adopting different mechanism to perform functions. The function of circulation is to serve the needs of the tissues such as nutrients, oxygen, hormones and also transport waste products away. When tissues are active they need more blood flow. Heart normally cannot increase its cardiac out more than four to seven times. Therefore, it is not possible to increase the blood flow everywhere in the body. When a particular demands increased flow, instead micro-vessel of each tissue are monitoring the tissue needs, such as availability of oxygen and nutrients and the accumulation of waste products, these intern controls local blood flow to the level of tissue need. The microcirculation of each type tissue of body is specially organized to serve special needs. Every cell has got their own microcirculation to maintain its constant internal environment.

CONCLUSION

Raktamokshan is the effective therapeutic tool of *Panchakarma* in various types of *Rakta Pradoshaj Vyadhi* if judiciously administered. The efficacy of *Raktamokshana* is appreciated by ancient scholars and present day modern peoples also. The sites of *Raktamokshana* told by *Acharya Sushruta* are more scientific and can be adopted for the purpose of removal of toxic or impure blood from the body.

The concept of bloodletting is very well documented in *Ayurvedic* classics. Different instruments can be used for *Raktamokshan* according to the vitiated *Dosha* and the site mention by *Acharya*. The procedure of *Raktamokshan* explained by *Acharya Sushruta* is extremely scientific. *Raktamokshan* done with appropriate site of individual diseases with internal *Snehpana* and *Abhyanga* for three days may provide better result. *Raktamokshan* is a *Sarvang Shodhana* procedure and *Poorvakarma* is required before The *Pradhan Karma*. Almost all the sites told by *Acharya Sushruta* for *raktamokshan* purpose can be adopted

easily in clinical practice. Raktamokshana is safe and effective treatment modalities for the management of *Rakta Pradoshaj Vyadhi*.

REFERENCES

1. Rambabu T1, Critical Study of Raktamokshana W.S.R. To Charaka Samhita International Journal Of Applied Ayurved Research, Jan-Feb 2014; 1(3) ISSN: 2347- 6362.
2. Sathish HS, Outline on researches on raktamokshana, Review Article, IJRAP, Sep-Oct 2013; 4(5).
3. Hiren N. Raval, Role of Raktamokshana by Jalaukavacharana and Siravedhana in the management of Vicharchika (Eczema), Published in AYU, Jan-March 2012; 33(1).
4. Dr. Archana Nivrutti Bhangare, A critical review on Consequence of Jaloukavacharan (leech therapy) in clinical practice, International Journal of Medical and Health Research, ISSN: 2454-9142, September 2016; 2(9).
5. Kaundal Ramesh et al. Jaulakavacharana (Hirudotherapy): A Unique Para surgical Measure, Int. J. Ayur. Pharma Research, 2015; 3(2): 29-34. ISSN: 2322 – 0910.
6. Hs Sathish, Db Vaghela, Bloodletting - An Ayurvedic perspective, journal of post graduate medicine, 2011; 57(3): 253.
7. Sonawane Abhinav et al: Effect of Raktamokshana on Calcaneal Spur, IAMJ, Jan – Feb 2014; 2(1).
8. Susrut samhita, Yadavji Trikamji Acharya, editor. Susruta Samhita with Nibandha Sangraha of Dalhanacharya. 8th ed. Varanasi: Chaukhambha Orientalia.
9. Ashtanga Hridaya, K. R. Shrkanta Murthy, Vol. Ii, Krishnadas Academy, Varanasi, 2nd Edition, 1995.
10. Susrut samhita, Yadavji Trikamji Acharya, editor. Susruta Samhita with Nibandha Sangraha of Dalhanacharya. 8thed. Varanasi: Chaukhambha Orientalia.
11. Susrut samhita, jyotir mitra, vol II, Varanasi: Chaukhambha Orientalia.
12. Susrut samhita, Anantram Sharma, editor. Susruta Samhita with Sudhrutvimarshani hindi tika, 8thed. Varanasi: Chaukhambha Orientalia.
13. R. K. Sharma, Charak Samhita With “Ayurvedeepika” Commentary Chakrapanidutta, Chaumbha Publication, Vol- Iv, 1st Edition, 1997.
14. Sushrut Samhita, Vaidya Atridev, Motilal Banarasidas publication, New Delhi, 2002.
15. Susrut samhita, Yadavji Trikamji Acharya, editor. Susruta Samhita with Nibandha Sangraha of Dalhanacharya. 8thed. Varanasi: Chaukhambha Orientalia.

16. Ashtanga Hridaya, K. R. Shrikantha Murthy, Vol. II, Krishnadas Academy, Varanasi, 2nd Edition, 1995.
17. Sushrut Samhita, Vaidya Atridev, Motilal Banarasidas publication, New Delhi, 2002.
18. Sidhinaandan Mishra, Charaka Samhita with "Ayurvedeepika" commentary Chakrapanidutta, Chaukhambha Samskrit Sansthana, Varanasi, 2009.
19. Ashtang Sangraha, Vol II, K. R. Srikantha Murthy, Chaukhambha Samskrit Sansthana, Varanasi, 1996.
20. Sidhinaandan Mishra, Charaka SamhITA with "Ayurvedeepika" commentary Chakrapanidutta, Chaukhambha Samskrit Sansthana, Varanasi, 2009.
21. Susrut samhita, Yadavji Trikamji Acharya, editor. Susruta Samhita with Nibandha Sangraha of Dalhanacharya. 8th ed. Varanasi: Chaukhambha Orientalia.
22. Sushrut Samhita, Vaidya Atridev, Motilal Banarasidas publication, New Delhi, 2002.
23. Sidhinaandan Mishra, Charaka Samhita with "Ayurvedeepika" commentary Chakrapanidutta, Chaukhambha Samskrit Sansthana, Varanasi, 2009.
24. Vidyanath R et al Critical study of Raktamokshana w.s.r. to Charaka Samhita, IJAAR, Jan-Feb 2014; 1(3).
25. Sushrut samhita, Anantram Sharma, Chaukhambha Surbharati Prakashan, 2004; 114.
26. Sushrut Samhita, Vaidya Atridev, Motilal Banarasidas publication, New Delhi, 2002.
27. Sushrut Samhita, Anantram Sharma, chaukhambha surbharati prkashan, varanasi, 2002; 114.
28. Sushrut Samhita, Vaidya Atridev, Motilal Banarasidaspublication, New Delhi, 2002.pg no.
29. Susrut samhita, Yadavji Trikamji Acharya, editor. Susruta Samhita with Nibandha Sangraha of Dalhanacharya. 8th ed. Varanasi: Chaukhambha Orientalia.
30. Susrut samhita, Yadavji Trikamji Acharya, editor. Susruta Samhita with Nibandha Sangraha of Dalhanacharya. 8th ed. Varanasi: Chaukhambha Orientalia.
31. Susrut samhita, Yadavji Trikamji Acharya, editor. Susruta Samhita with Nibandha Sangraha of Dalhanacharya. 8th ed. Varanasi: Chaukhambha Orientalia.
32. Ashtang Sangraha, Vol II, K. R. Srikantha Murthy, Chaukhambha Samskrit Sansthana, Varanasi, 1996.
33. Sidhinaandan Mishra, CHARAKA SAMHITA with "Ayurvedeepika" commentary Chakrapanidutta, Chaukhambha Samskrit Sansthana, Varanasi, 200914/41-42.
34. Ashtang Sangraha, Vol II, K. R. Srikantha Murthy, Chaukhambha Samskrit Sansthana, Varanasi, 1996.