



Review Article

RAKTAMOKSHANA - ANCIENT BLOOD LETTING TECHNIQUE: A REVIEW

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ABSTRACT

Ayurveda is a science that focuses on both well-being and disease treatment. Many surgical and para-surgical procedures have been described by Acharya Sushruta for the management of various diseases; among these, *Raktamokshana* is popularly used for the management of various pathologies occurring due to *Rakta Dushti* (blood-borne disorders). It is derived from two words i.e., '*Rakta*' which means blood & '*Mokshana*' which means leave. Hence, *Raktamokshana* means to let the vitiated blood out. It is one of the five purification therapies by Acharya Sushruta. There are two ways to do *Raktamokshana* i.e., *Shastra Visravana* (using sharp instruments) and *Anushastra Visravana* (without using sharp instruments). Furthermore, it is said that *Siravedha* is '*Chikitsaardha*' i.e., half of the treatment described in *Shalya Tantra* is similar to a well-performed *Basti karma* (Therapeutic Medicated Enema) advocated in *Kaya-Chikitsa*. However, there are relatively limited recommendations or use of *Raktamokshana* in clinical practices nowadays which may be due to fear associated with the procedure, lack of skillfulness, and unawareness about the efficacy of *Raktamokshana* in various diseases. This review article is specifically intended to assemble the usefulness of numerous modes of *Raktamokshana* based on Ayurvedic parameters with its detailed procedure.

INTRODUCTION

According to Ayurveda, there are two types of treatment procedures, viz. 1) *Santarpana* or *Brimhana* (nourishing therapy) and 2) *Apatarpana* or *Langhana* (depleting therapy) [1]. *Langhana* is of two types i.e., *Shodhana Chikitsa* (purification therapy) in which elimination of excess *Doshas* from the body is facilitated, and *Shamana Chikitsa* (palliative or internal medicine), where the increased *Doshas* are brought into equilibrium with the help of various ayurvedic formulations [2]. Acharya Sushruta and Vagbhatta have described five types of *Shodhana* therapy i.e., *Vamana Karma* (Therapeutic Emesis), *Virechana Karma* (therapeutic purgation), *Basti Karma* (therapeutic medicated enema), *Raktamokshana* (therapeutic bloodletting) and *Shirovirechana* (therapeutic nasal medication).

Among these *Raktamokshana* is popularly used for the management of various ailments occurring due to *Rakta Dushti* (blood-borne disorders).

History

It is one of the oldest practices, which have been practiced among ancient people including Mesopotamians, the Egyptians, the Greeks, the Mayans and the Aztecs. The British encyclopedia is the witness to this therapy. Celcius (25 BC- 50 AD) has aptly quoted "to let blood by incision given in is no novelty: what is novel is that there should be scarcely any malady in which blood should not be let." [3] Hippocrates (~460-370 BC) believed that existence was represented by the four basic elements i.e., earth, air, fire, and water - which in humans were related to the four basic humors: blood, phlegm, black bile, yellow bile. Being ill meant having an imbalance of the four humors. Therefore, treatment consisted of removing an excessive amount of the humor by various means such as bloodletting, purging, catharsis, diuresis, and so on [4]. Galen (129-200 AD, Famous Roman physician) declared blood as the most dominant humor and then the practice of venesection gained even greater importance [5]. Ambrose Pare (1510-1590, a French Barber Surgeon, the Father of

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Modern Surgery) has mentioned amazing experiences regarding blood-letting, viz., helps in reducing congestion, Bleeding from right arm to stop bleeding in left nostril (diversion), venesection in ankle to divert menstrual bleeding, to draw blood in fever, prevention in spring and autumn, use of suppository or gentle enema before Blood-letting, etc^[4]. Charles II (1630–1685, King of Great Britain and Ireland), suffered a seizure and he was immediately treated with 16 ounces of bloodletting from the left arm followed by another 8 ounces from cupping ^[6]. Dr. François Broussais (1772–1838, a Parisian physician), greatly influenced the use of leeches as he claimed that all type of fevers were due to specific organ inflammation ^[7]. George Washington (1732–1799, 1st U.S. President), after riding in snowy weather, developed fever and respiratory distress. Under the care of his three physicians, he had copious amounts of blood drawn, blistering, emetics, and laxatives^[4]. Dr Benjamin Rush (1745–1813), had a very simplistic view of disease and thought that all febrile illnesses were due to an “irregular convulsive action of the blood vessels.” Therefore, in his mind, all therapy was directed at dampening down this vascular overexcitement. He was a great proponent of “depletion therapy,” which meant aggressive bloodletting and vigorous purging^[4]. In Paris Dr. Pierre Louis (1787–1872) was another scientific-minded physician who wanted to assess the efficacy of bloodletting. He examined the clinical course and outcomes of 77 patients with acute pneumonia taken from his own and hospital records^[8]. In the last 25 years leech therapy has made a comeback in the area of microsurgery and re-implantation surgery. The leech can help reduce venous congestion and prevent tissue necrosis. In this way, it can be used in the postoperative care of skin grafts and re-implanted fingers, ears, and toes ^[4].

Importance of Raktamokshana

Siravedha (venepuncture) is said to be ‘*Chikitsaardha*’ meaning half of the treatment described in *Shalya Tantra* is similar to a well-performed *Basti Karma* (therapeutic medicated enema) advocated in *Kaya-Chikitsa* ^[9]. Diseases that are not cured by *Snehana* kriya/similar procedures, or *Lepa* application, subside fast if *Siravedha* is done properly^[10]. As per Astanga Sangraha, *Rakta* is the main *Dushya* (*Aashrya Sthana*) in all disorders, so *Raktamokshana* should be used as the first line of treatment^[11]. Persons who undergo *Raktamokshana* on regular intervals never get *Twaka Dosha* (skin disorders), *Granthi Roga* (swellings like cyst, lipoma etc.), *Shopha Roga*, *Rakta Dushti Roga* (blood-borne disorders)^[12]. *Siravedha* destroys all disorders just like all *Shali Dhanya* gets destroyed after breaking of boundaries of field due to outflow of water from

field^[13]. After the bloodletting of *Dushita Rakta*, there is instant relief in *Raga* and *Ruja* (pain) ^[14]. All the disorders which don’t resolve on doing *Sheeta-Ushana*, *Ruksha-Snigdha Vipryaya Chikitsa*, should be treated with *Raktamokshana* ^[15].

Classification and Suitable Timing of Raktamokshana

Raktamokshana can be done by two ways i.e., *Shastra Visravana* (using sharp instruments) and *Anushastra Visravana* (without using sharp instruments). *Shastra Visravana* can be further divided into two types i.e., *Pracchana* (scarification) and *Siravyadhana* (Venepuncture) ^[16]. *Anushastra Visravana* can be further divided into *Shringa*, *Jalauka* (leech therapy), *Alabu* and *Ghati yantra*. Ideally it should be done in *Sharada Ritu*, as in this season there occurs *Rakta Prakopa*. Avoid doing it on the day when there is excessive heat (*Ushna Kala*), *Pravate* (cold wind blowing) and cloudy days (*Abhra Kala*). It should be done after proper *Swedana* and *Yvagu Pana*^[17,18,19].

Indications and Contraindications of Raktamokshana

On the basis of Doshas^[20,21]: *Vata Rakta Dushti* and *Twachasthita Rakta - Shringa* should be used due to its properties like *Ushna*, *Madhura*, *Snigdha* which are opposite to that of *Vata* i.e., *Sheeta* and *Ruksha*, *Madhura rasa* pacify *Vata Dosha*. *Pitta Rakta Dushti* and *Avagaada Rakta Dushti - Jalauka* should be used due to its properties like *Sheeta* and *Madhura* which are opposite to that of *Pitta dosha* i.e., *Ushna* and *Katu*. *Kapha Rakta Dushti* and *Twachasthita Rakta - Alabu* should be used due to its properties like *Ruksha*, *Katu* and *Tikshana* which are opposite to that of *Kapha dosha* i.e., *Sheeta*, *Madhura* and *Snigdha*. Acharya Vagbhatta has also mentioned the use of *Shringa* in *Vata* and *Pitta Rakta Dushti* and use of *Alabu/Ghati Yantra* in *Vata* and *Kapha Rakta Dushti* ^[22].

On the basis of Rakta Dushti ^[20,21]: Based on depth of *Rakta Dushti* (i.e., *Avagaada*, *Avagaadatar*, *Avagaadatama Rakta Dushti*) i.e., as per *Sushruta*, *Pracchana*, *Jalauka*, *Alabu*, *Shringa* and *Siravyadhana* should be used as per increase in depth of *Rakta dushti* i.e., if in *Twaka* use *Pracchana*, deeper to it use *Jalauka* and so on. Based on location-*Ekadositharakta & Pinditarakta Dushti- Pracchana* and in *Sarvangavyapaka Dushita rakta- Siravyadhana* should be used.

On the basis of Aatura (patients) Awastha ^[20,21]: For *Sukumara*, *Alabu* and *Shringa* is used. For *Param Sukumara* (like King, Children’s, Old, *Bhiru*, *Durbal* and females), *Jalauka* is indicated and for *Asukumara*, *Pracchana* and *Siravyadhana* is used.

Specific indications of Raktamokshana: *Jalauka* is indicated in diseases such as *Arsha*, *Gulma*, *Vidradhi*, *Kushta*, *Vatarakta*, *Netraroga*, *Vishdanst*, *Visarp*^[23].

Siravyadhana is indicated in *Visarpa, Vidhradhi, Pliha Roga, Gulma, Agnimandya, Jwara, Mukharoga, Siro Roga, Mada, Trishana, Lavana aashyta, Kushta, Vatarakta, Raktapitta, Katu* and *Amla Udgara, Bhrama* [24].

Contraindications of Raktamokshana [25]:

Raktamokshana is contraindicated in various conditions such as *Sarvanga Shopha, Ksheena* (emaciated person), *Pandu* (anaemia), *Arsha* (haemorrhoids), *Udara Roga, Shosha, Garbhini* (pregnant women). It also includes other disorders in which *Siravyadhana* is contraindicated like *Vata Roga*, children or too old people i.e., age below 16 and above 70 years, wounded, timid, tired, emaciated, weak persons, those who underwent emesis, purgation, or medicated enema recently, those who suffer from cough, asthma, hyperpyrexia, convulsions, paralysis, fasting and excessive thirst, unconscious person, avoid veins that are not fixed, straight and elevated [26].

Various Procedures of Raktamokshana

Pracchana[27]- In this process the bloodletting is done by means of Scarification. After selecting of area, tie the tourniquet or bandage a little above that area and then make shallow pricks or scratches. The scratch should be straight, fine and even and should not be very near to each other. It should neither be very deep nor very superficial and should be away from the vulnerable areas (*Marma*), blood vessels, bones, nerves, tendons and joints [28]. As per Sharandhara, it can drain *Dushita Rakta* up to 1 *Angula* around the site of Procedure [29].

Siravyadhana (Venepuncture)[30]- In this process, the removal of blood is done by using scalp vein or needle. The size of *Siravyadhana* in *Mansa Pradesh* is *Yavamatra* by *Vrihimukha Shastra*. Other than *Mansa Pradesh*, it should be $\frac{1}{2}$ *Yava* or *Vrihimatra* by *Vrihimukha Shastra*, whereas in *Asthi Pradesh* it should be $\frac{1}{2}$ *Yavamatra* by *Kutharika Shastra*. The suitable time for *Siravyadhana karma* is that in the rainy season on an uncloudy day (*Vybhre*), in the summer season on a cool day and in *Hemanta* (autumn season) on mid-day *Siravyadhana* should be done. The maximum limit of bloodletting to be done is about one *Prastha*. As per Sharandhara it can be used in *Sharvang Rakta Dushti* [29]. This procedure is to be done till blood comes out with stream and stops itself within one *Muhurta Kala* (abt. 45 minutes).

Shringa[31]- In this process the removal of vitiated blood is done by using *Go-Shringa* (cow's horn) on the selected part of the body. After the selection of the site, small and shallow pricks are made on that area. *Shringa* is applied to that area and the air is sucked by mouth from another opening of *Shringa*. The air gets sucked out, which creates a vacuum. Then the vitiated blood oozes out. As per Sharandhara it can

drain *Dushita Rakta* up to 10 *Angula* around the site of procedure [29].

Alabu [31] - In this process the removal of blood is done by using a dried vegetable shell i.e., a bottle gourd on the selected part of the body. After the selection of the site, small and shallow pricks are made on that area. *Alabu* is applied to the site after creating a vacuum inside it using *Deepaka* (small lamp light/ or small cotton burning). The air gets sucked out, which creates a vacuum. Then the vitiated blood oozes out. As per Sharandhara, it can drain *Dushita rakta* up to 12 *Angula* around the site of the procedure [29].

Jalauka (Leech therapy)[32]- In this procedure, bloodletting is done by applying a leech to the affected region of the body. Keep *Jalauka* in water mixed with mustard and turmeric powder for *Glani- Nirharnartha* (to make it active). Then it is applied to the affected area and if doesn't suck then a small prick is made near the affected region and then again apply *Jalauka* over that region after the blood drop oozes out. Thereafter, *Jalauka* starts to suck the blood and its mouth becomes like the horse hooves and then covers it with the wet gauze piece with a sprinkling of water over it. When enough blood is sucked that causes pricking pain or itching sensation, the *Jalauka* leaves the area and moves down. In case, if it does not leave on its own, *Haridra* powder is sprinkled on *Jalauka*. Then the *Jalauka* should be made to vomit out the blood or else it develops the incurable disease called *Indramada*. After that dressing is done using *Shatdhaout Ghrita*. As per Sharandhara, it can drain *Dushita Rakta* up to 1 *Hasta* around the site of the procedure [29].

Shuddhi Lakshana of Raktamokshana

In case of *Samyak Shuddhi*, *Acharya Sushruta* has quoted the benefits of the *Raktamokshana* as it provides instant relief from painful misery along with feeling of lightness of body and cheerfulness of mind [33]. In case of *Ayoga* or *Asmyaka Raktamokshana*, it leads to *Shotha, Daha, Raga* and *Paka* [34] and in case of *Ati Raktamokshana*, it is responsible for various conditions such as *Siroabhitapa, Aandhya, Agnimantha, Timir, Dhatukshaya, Aakshepaka, Daha, Pakshaghata, Swasha, Kasha, Pandu* and *Maran* [35].

Treatment for Ashrava and Ati Shrava [36]

In case of *Ashrava- Ela, Karpura* and various other drugs are mixed with *Saindhav Lavana* and *Tila Taila* and rubbed over the site of *Raktamokshana*. Whereas in case of *Ati shrava*, use of *Lodhra, Yastimadhu, Gairika, Sal, Sarjrasa, Arjuna* etc. drugs are mentioned in various classical text. Use *Kshara, Agni Karma, Sheeta Jala Parisheka, Sheeta Pradeha, Raktapana* (blood of deer, buffalo, pig) as well as use of *Dugdha, Yusha* and *Mansa Rasa* for oral intake to the patient is also mentioned by the renowned Acharyas.

Along with these, Acharyas have described four ways of *Raktstambhana* (haemostasis) [37]. *Skandana*– In this process *Sheeta* (cold) substances should be used like *Sheetal Jala Parisheka*, use of ice, *Nagrodhaadi Gana Sheetal Kashaya Parisheka*. *Sandhana*– It is done using *Kashaya Rasa Dravya* like *Lodhra, Priyangu, etc., Pachana*– This is done using *Bhasma* and *Kshara*. *Dahana*– If none of above method works then *Agni Karma* should be done at *Raktamokshana* site as it will lead to contraction of blood vessels leading to stoppage of blood flow.

DISCUSSION

Raktamokshana (therapeutic blood-letting) is one of the para surgical procedures that come under the *Shodhana Chikitsa*. It is the process of bloodletting for the therapeutic purpose of removing the vitiated *Dosha* from the body. Acharya Sushruta had given much importance to *Rakta* and also considered it as the fourth *Dosha*. Even though *Raktamokshana* is an important procedure, Acharya Sushruta stressed on the appropriate timings for doing it and also mentioned the quantity of blood to be removed from the body. Because the excessive removal of blood cause severe complications and may cause death also.

CONCLUSION

As in present society, people are much more prone to lifestyle disorders due to the increased intake of junk food, irregular dietary habits, late night sleep, lack of physical activity, unhygienic maintenance, etc., which causes the accumulation of impurities in the blood. This leads to the cause of several blood-borne diseases, skin diseases, lifestyle disorders, etc., In order to remove the toxic substances from the blood, one should undergo the *Raktamokshana* procedure periodically or else it may lead to life-threatening conditions. So proper *Raktamokshana* not only cures ailments but also prevents several diseases and helps to maintain the health of the people.

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