

## INTRODUCTION TO RAKTAMOKSHANA AND ITS IMPORTANCE IN SHALYA TANTRA VYADHI'S

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Article Received on 28/01/2025

Article Revised on 18/02/2025

Article Accepted on 10/03/2025

### ABSTRACT

➤ *Raktamokshana* is a parasurgical procedure for treatment of *dushta rakta*. It is one among the *pancha shodhana* mentioned by *Acharya Susruta*. *Rakta* means blood and *mokshana* means let out, so *raktamokshana* is letting out the impure blood (Bloodletting). *Raktamokshana* can be done by two methods i.e, *sashastra visravana* (using sharp instruments) and *Ashastra visravana* (without sharp instruments). Among them *Siravyadha* is considered as *ardha chikitsa* in *Shalya tantra* by *Acharya Susruta* just like *basti* is considered as *ardha chikitsa* in *Kaya chikitsa*.

**KEYWORDS:** *Raktamokshana*, Bloodletting, *Sashastra visravana*, *Ashastra visravana*, *Ardha chikitsa*.

### INTRODUCTION

- *Raktamokshana* is a unique para – surgical procedure indicated in diseases where *rakta* is grossly vitiated.
- *Raktamokshana* is one among *pancha shodhana* according to *acharya susruta*.<sup>[1]</sup>
- ***Raktasya mokshanam rakta srava***; which means letting the blood outside of body
- *Raktamokshana* is done for getting relief from *rakta pradosh* *vyadhis* as well as for *swasthya rakshana*.
- Due to *aashraya asrayi bhava* of *rakta* and *pitta*, *raktamokshana* helps in relieving *pittaja vyadhis* too.<sup>[2]</sup>
- *Raktamokshana* is *aashu chikitsa*.

### Synonyms of *raktamokshana*

- *Rakta nirharana*
- *Raktashravana*
- *Rakta harana*
- *Astravisruthihi*
- *Shonithamokshana*

### Formation of *rakta*

***Sa khalu api raso yakrit pleehano prapya raga upayithi***.<sup>[3]</sup>

- The digested food forms *rasa dhatu* as *sara bhaga* and it enters *yakrut* and *pleeha* and attains red colour and being called as *rakta dhatu*.

### Functions of *rakta*

***Preenanam jeevanam lepo sneho dharana poorane Garbothpatascha dhatunam shreshtam karma kramastmrutam***.<sup>[4]</sup>

*Jeevanam* which means maintainence of life.

### *Panchaboutikatva of rakta*

<sup>[5]</sup>

***Visrata dravatha ragah spandanam laghuta tatha Bhumyadeenam gunaa hyete drushyante chatra shonithe***.

Odour, liquidity, red colour, throbbing and lightness – these qualities of *Prithvi* and other *bhutas* respectively are found in the blood.

### *Rakta dushti kaaranas*

<sup>[6]</sup>

#### *Aahara*

- *Ati sevana* of
  - *Bahu, ushna, teekshna and dushta madhya*
  - *Lavana, kshara, amla and katu dravyas*
  - *Kulattha, masha, nishpava, tila*
  - *Dadhi, mastu and amla kanji*
  - *Aalu, moolaka, Haritha shaka, prasaha mamsa*
  - *Viruddha aahara*

#### *Vihara*

- *Bhuktva divasyapna*
- *Chardi vega dharana*

- *Adhika shrama*
- *Adhyashana*
- *Abhighata*

#### Manasika

- *Krodha*
- *Shoka*
- *Bhaya*

The *Rakta dhatu* gets vitiated by the above factors and leads to formation of *Kandu, Shota, Daha, Paka and Vedana*.

#### Treatment for rakta dushti<sup>[7]</sup>

□ *kuryat shonitha rogeshu raktapitta harim kriyam vireka upavasam cha sravanam shonithasya cha.*

Acharya charaka says *raktamokshana* is one among the treatment for *rakta dushti*

#### Importance of raktamokshana

□ *snehadibhihi kriyayogaih na tatha lepanairapi yanti aashu vyadhayah shantim yatha samyak siravyadhatat.*<sup>[8]</sup>

The diseases which are not cured by *snehadibhih kriya yogaih* and by *lepa* etc, are cured immediately by *siravyadha*.

#### Selection of different modalities of rakta mokshana according to dosha, dhatu & aatura anusara<sup>[13]</sup>

Types	Doshanusara	Rakta avasthanusara	Aatura avasthanusara
<i>Srunga</i>	<i>Vata dushta</i>	<i>Tvakstha rakta</i>	<i>sukumara</i>
<i>Jalouka</i>	<i>Pitta dushta</i>	<i>Avagadha rakta</i>	<i>Parama sukumara</i>
<i>Alabhu</i>	<i>Kapha dushta</i>	<i>Tvakstha rakta</i>	<i>Sukumara</i>
<i>Prachana</i>		<i>Pinditha rakta</i>	<i>Asukumara</i>
<i>siravyadha</i>		<i>Vyapaka asrija</i>	<i>Asukumara</i>

#### Purva Karma for Raktamokshana

- Procedure will be explained to patient.
- Laboratory investigations to be done
  - Hb%
  - CT, BT
  - HBsAg
  - HIV - I & II
- Signature of the patient will be taken in consent form.
- Patient is instructed to withhold anti-coagulants for 3 days prior before the procedure if he is on anti-coagulants.

#### Prachhana karma

- A procedure in which affected area is scraped with a sharp instrument like *suchi*.

It should be done<sup>[14]</sup>

- *Ruju* – straight
- *Asamkeerna* – not overlapping each other
- *Sukshma* – fine/ pointed
- *Sama* – even
- *Anavagadha* – not very deep
- *Anutthana* – not very superficial

□ *Siravyadhah chikitsardham shalyatantra prakeertitah*

*yatha panihitah samyak basthih kaya chikitsithe.*<sup>[9]</sup>

*Siravyadha* is considered as *ardha chikitsa* in *shalya tantra* just like *basti* is considered as *ardha chikitsa* in *kaya chikitsa*.

□ *Tvakdoshah granthayah shopha roгах shonithajascha ye*

*Raktamokshana sheelanam na bhavante kadachana.*<sup>[10]</sup>

Those who undergo *raktamokshana* regularly will not get afflicted with the above diseases.

□ *Yanihoktani karmani visarpanam nivrutraye Ekasthani Sarvani raktamokshanamekatah.*<sup>[11]</sup>

*Raktamokshana* is the best line of treatment in *visarpa*.

#### Rakta Nirharana Upaayam

By *Shastra*<sup>[12]</sup> – *prachana* and *siravyadha*

By *Anu Shashtra* – *srunga, jalouka* and *alabhu*

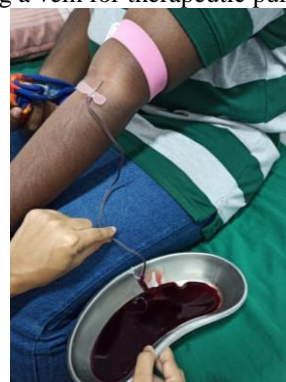
- *Aashu* – quickly
- Without harming – *marma, sira, snayu* and *sandhi*

#### Indications<sup>[15]</sup>

- *Vatasruk*
- *Granthi pidakah*
- *Kotha*
- *Raktamandalam*
- *Kushta*

#### Sira vyadha

- Puncturing a vein for therapeutic purpose.



**Indications**<sup>[16]</sup>

- Vidradhi
- Kushta
- Eka deshaja shopha
- Sleepada
- Visarpa
- Kshudra roga

**Contra-Indications**<sup>[17,18]</sup>

- Baala
- Rooksha
- kshata ksheena
- Bhiru
- Madhyapa
- Adva
- stree karshitha
- Sarvanga shopha
- Amla bhojina
- Pandu rogi
- Upavasa
- Udara
- Garbhini

**Vyadhana pramana**<sup>[19]</sup>

- Mamsala pradesha – Yava matra
- Other than mamsala pradesha – ½ Yava matra or Vreehi matra with Vreehimukha shastra
- Siras present on Asthi – ½ Yava matra with Kutharika shastra

**Amount of Blood to be Withdrawn**

- **Balino bahu doshasya vayastasya sharirinah param Pramana michanthi prastham shonithamokshane.**<sup>[20]</sup>
- For balina, bahu doshastha and vayastha – utthama matra is 1 prastha(675 ml).
- According to **Acharya Dalhana**<sup>[21]</sup>
  1. Uttama Matra – 1 Prastha (approx 675 ml)
  2. Madhyama Matra – ½ Prastha (approx 338 ml)
  3. Adhama Matra – 1 Kudava (168 ml)

**Srunga**

Refers to Horn of Cow.

**Gunas**

- **Ushnam samadhuram snigdam gavam srungam prakeertitham**
- Tasmat vatopasrushte tu hitham tadavasechane.**<sup>[22]</sup>

Srunga (cow's horn) is hot in potency, sweet in taste and unctuous, hence it is ideal to remove blood vitiated by vata.

**Indications**<sup>[23]</sup>

- Vata dushita rakta
- Sukumara
- Utthana – tvak sthitha dosha

**Dimensions of Shringa:**

1. It is Conical, Hollow and bent inwards at Distal end.
1. Length – 18 Angula.
2. Circumference in the middle- 12 Angula.
3. Diameter of Orifice at Base – 3 Angula.
4. Diameter of Orifice at Tip – Size of Mustard.

**Jaloukavacharana**

- ❑ Bloodletting using leech for therapeutic use.

**Indications**<sup>[24]</sup>

- Nrupa
- Aadya
- Baala
- Bheeru
- Durbhala
- Nari
- Parama sukumara

**Alabhu**

Refers to Bottle Gourd.

**Gunas**

- ❑ **alabhu katukam rooksham teekshnam cha parikeertitham**
- tasmat sleshmopasrushte tu hitam tadavasechane.**<sup>[25]</sup>

Alabu is considered bitter, dry and penetrating; hence it is ideal to remove blood vitiated by kapha.

**Indications**<sup>[26]</sup>

- ❑ Kapha Dushita Rakta
- ❑ Twak Sthita Dosh

**Alabu Dimension**

Length- 4 Angula,  
Diameter- 8 Angula

- This should be smeared with black thin layer of mud before use

**Raktamokshana in shalya tantra vyadhi's****1. Prachana in indralupta<sup>[27]</sup>**

❑ *Prachayitva avagadham va gunja kalkaih muhurmujuh lepayet upashantartham.*

- In *Indralupta*, doshas (*kapha, rakta, pitta, vata*) are lodged in the *Romakupas* and obstruct it, this limits the hair regrowth. *Pracchana* removes these vitiated *Doshas*.
- *Pracchana* improves Perifollicular Vascularisation.

**2. Prameha pidaka**

❑ *..... tatroktah pratikarah siramokshascha.*<sup>[28]</sup>

- In *Prameha pidika* – if no treatment is done in *aama avastha* and no *shodhana* is done, then aggravated doshas will vitiate *shonitha* and *mamsa*, this leads to increase in swelling.
- In order to reduce the *shopa*, *raktamokshana* is done.

**3. Sira granthi<sup>[29]</sup>**

❑ *Siragranthou nave peyam tailam sahacharam tatha Upanaho anilahrarai bastikarma siravyadhah*

- ❑ In case of varicose veins, due to venous hypertension there is stretching of the veins which causes pain, after *siravyadha*, by the removal of blood there is decrease in pressure in the veins thus reducing pain.
- ❑ Stasis of blood is removed by *siravyadha*.
- ❑ *Siravyadha* helps to increase pumping action of vein by creating negative pressure.
- ❑ Diffusion of rbc into the tissue, its lysis and release of haemosiderin causing pigmentation is all avoided as rbc are removed by *raktamokshana*
- ❑ The free iron is utilized by the fresh blood flowing in, thus pigmentation doesn't occur.
- ❑ The breakdown of rbc also stimulates histamine at the site causing vasodilation, vascular permeability and itching which may further lead to eczema, but all this is prevented by the removal of the blood.

**4. In vidradhi**

*Vataja vidradhi*<sup>[30]</sup>

*...svedayet satatam chapi nirharechhapi shonitham ...*

- *Raktamokshana* is done with *shrunga*.

*Pittaja and raktaja vidradhi*<sup>[31]</sup>

*...jaloukobhi harechha asruk ...*

- *Raktamokshana* with *Jalouka*.

*Kaphaja vidradhi*<sup>[32]</sup>

*...haret doshanabhikshanam chapyalabva asruk tathiva cha*

- *Raktamokshana* with *alabu*.

**5. Visarpa**

❑ *Samshodhanam shonitamokshanam cha sreshtam visarpeshu chikitsitam hi.*<sup>33</sup>

- In all kinds of *Visarpa*, *raktamokshana* by *Jalouka* is one of the best line of treatment.

**6. Arshas**

❑ *Avarthamana uchrana kathinebyo haredrasruk Arshobhyo Jalaja shastra suchi karchaih punah punah.*<sup>[34]</sup>

**Probable mode of Action**

- In thrombosed piles there is pain and inflammation
- *Jaloukavacharana* when done, biologically active substances such as hirudin (thrombin inhibitor which inhibit conversion of fibrin to fibrinogen and prevents blood clotting), vasodilators (anti-histamines), hyaluronidases, kallikrein, and tryptase inhibitors and natural anaesthetic substance reduce pain and inflammation
- Due to presence of anti-inflammatory substances in the saliva of leeches, leech therapy has been used to treat localised inflammation and pain.



### 7. Dusht Vrana<sup>[35]</sup>

- ❑ *Tasya vranasya shashtirupakrama bhavanti. Tadyatha apatarpana aalepah parisheko abhyangah svedo vimlapanam upanahah pachanam visravanam.*
- ❑ *Dushta vraneshu kartavyamurdhva aadascha shodhanam visoshanam tatha aaharah shonitasya cha mokshanam*

#### Probable mode of Action

- ❑ *Jaloukavacharana* removes the vitiated blood thus helps in providing relief from pain (inflammation).
- ❑ The saliva of leech contains substances like hirudin, hyalurodinase, hemetin, etc these have anticoagulant, vasodilator, local anaesthetic, anti-inflammatory effects.
- ❑ These substances are injected into the lesion while the *jalouka* is sucking the blood.
- ❑ Anticoagulants reduce clotting of blood.
- ❑ Vasodilators help improving capillary circulation in the part.
- ❑ Anti-inflammatory action helps to fight infection.
- ❑ All these will help to relieve symptoms- pain, burning sensation, itching.
- ❑ Improved circulation promotes quicker healing of the wound.

### 8. Vrana shopha

- ❑ *Aadhou vimlapanam kuryat dviteeyam avasechanm.*<sup>[36]</sup>
- ❑ *Avasechanam jaloukadibhi raktavisravanam (Dalhana).*<sup>[37]</sup>
- *Vranashotha* has 3 stages *ama*, *pachyamana* and *pakva*.
- *Raktamokshana* is done in *ama avastha*, it removes vitiated blood and fresh blood flows to the part, thus reduces inflammation.
- The substances present in saliva of *jalouka* have anticoagulant, anti-inflammatory and vasodilators which help in improving circulation to the part. This also helps in reducing inflammation.
- Analgesic effect of the substances in the saliva of leech help reduce pain.

### DISCUSSION

- ❑ *Raktamokshana* is a simple procedure and can be practised at opd level.
- ❑ It can be used as a *rutucharya* in *sharat rutu* to prevent *pittaja* and *raktaja vyadhis*.
- ❑ *Raktamokshana* is an effective procedure in various conditions. For example in *dushta vrana* it helps in quicker healing by improving blood circulation.
- ❑ In *siragranthi* it relieves symptoms like pain, burning sensation, itching, pigmentation by removing stasis of vitiated blood.
- ❑ In the earlier stages of *vrana shotha*, *vidradhi*, it helps in reducing inflammation.
- ❑ In *indralupta* it removes vitiated doshas which promotes nourishment and regrowth of hair. It helps in the better absorption of the *lepa*, *taila* applied later the procedure.
- ❑ For localized conditions *raktamokshana* can be done by *pracchana* (*angulamatrasya*), *jalouka* (*hastamatram*), *shringa* (*dashangulam*) and *alabu* (*dwadashangulam*) where as *siravyadha* is said to be *sarvangashodhini*.<sup>38</sup>
- ❑ Indications of *jaloukavacharana* told by *acharya susruta* holds good till today as it can be safely applied in all ages & variety of *rakta pradoshaja vyadhis*.
- ❑ *Snehadibhihi kriyayogaih na tatha lepanairapi yanti aashu vyadhayah shantim yatha Samyak siravyadhatat.*<sup>[39]</sup>
- Diseases which are not cured by any other forms of treatments gets treated immediately by *sira vyadha*.
- ❑ *Rakshan raktamadbhuya saptaham ta na patayet.*<sup>[40]</sup>
- ❑ After a week, *jalouka* can be used again.
- ❑ *Tadebhireva shonita chaturdheh sambhava sthiti pralayeshvapyavirahitam shareeram bhavati.*<sup>[41]</sup>
- ❑ The three *doshas* along with *shonita* are present during the origin, existence and destruction of the body.

### CONCLUSION

- *Raktamokshana* is a unique procedure done for getting relief from *raktapradoshaja vyadhis* as well as for *swasthya rakshana*.
- *Pracchana*, *siravyadha* are the types of *sashastra*

*raktamokshana* whereas *shrunga*, *jaloukavacharana*, *alabu* are types of *ashastra raktamokshana*.

➤ *Raktamokshana* is indicated in various *shalya tantra vyadhis* like *dushta vrana*, *vrana shotha*, *granthi*, *arshas*, *vidradhi* and *kshudra rogas* like *indralupta*, accordingly it can be used in various other conditions also.

➤ *Tvakdosha granthayah shopha rogaah shonitajascha ye*

***Raktamokshana sheelana na bhavanthi kadachana***

➤ In people who undergo *raktamokshana- twak dosha*, *granthi*, *shopha* and *rogas* due to *dushta rakta* will not occur.

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