



## **Critical review of *Prachhannakarma* and instruments for *Prachhannakarma* mentioned in *Bruhatrayi***

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### **ABSTRACT**

*Ayurveda* is an ancient Indian medical science known for its medicinal approach as well as surgical and para-surgical procedures to treat diseases. Many para-surgical procedures are described in classical texts such as *Agni Karma*, *Viddha Karma*, *Raktamokshana Karma* etc. which are highly effective in treating various surgical conditions. Literary meaning of *Raktamokshana* or *Raktavisravavna* is to let flow the blood from body. There are many different procedures for *Raktamokshana* i.e. *Siravedhana*, *Jalaukavacharana*, *PrachhannaKarma* etc. Particularly in *Prachhannakarma*, multiple small superficial parallel incisions or punctures are made for *Raktamokshana* with different types of sharp instruments. There are many references for *Prachhannakarma* as part of treatment protocol as prime procedure or pre-operative procedure. In this article we tried to compile all the references of *Prachhannakarma* from *Brihatrayi*.

**Keywords:** *Prachhannakarma*, *Bruhatrayi*, *Raktamokshana*, *Shastrakruta Raktamokshana*, *Para-surgical procedures*,

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### **INTRODUCTION**

*Ayurveda* is an Indian medical science which is treating many diseases since ages. Treatment includes various forms of medicines, local application of drugs, surgical procedures and para-surgical procedures according to disease condition. Mainly in para-surgical procedures *Agnikarma*, *ViddhaKarma* and *RaktamokshanaKarma* are vividly explained in *Ayurveda* classics. *Raktamokshanakarma* is highly appreciated by *AcharyaSushruta* that in *Sushruta Samhita*, *Raktamokshana* is mentioned as *ArdhaChikitsa* of *Shalyatantra* [1]. *Rakatamokshana* consists of two words 'Rakta' that means blood and 'Mokshana' that means to flow, considering these the meaning of whole word is to let flow the blood out of body is called as *Raktamokshana*. Different terms for *Raktamokshana* are used by different *Aacharyas* at different references i.e. *Raktavisravana*, *Raktanirharana*, *Raktaharana*, *Asravisruti*, *Shonitamokshana*, *Shonitavisravana* etc. There are some methods described for *Raktamokshana* such as- *Jalaukavacharana*, *Siravedhana*, *Prachhanna*, *Alabu* and *Shrunga* application. In *Jalaukavacharana* a leech is applied to the site and let it suck out the vitiated blood from the body. In *Siravedhana* (venesection), making incision on the vein made prominent by tying a tourniquet (*Rajju/Plot*) is dictated. In *Prachhannakarma*, many superficial incisions or puncture are made to make the scars on the site. Other methods are also described by *Aacharya Vagbhatta* such as *Kuttanakarma* [2], in which, they use sharp needle or multi-needled instruments to make scars by hammering it on the site. We can mention it as a modified type of *Prachhannakarma*. *Prachhannakarma* is also indicated as a pre-operative procedure also such as in- *Alabu* application, *Shrung* application and *Kshara* application on the local site of particular area of skin. Other *Samhitas* and texts of *Ayurveda* also mention *Prachhannakarma* as a part of management of various diseases. In current scenario, *Prachhannakarma* can be described as an effective, safe, and popular and OPD base treatment modality for various cosmetic or skin disorders. Even it is also gaining popularity in the field of modern dermatology and cosmetology in the form of microneedling or scarification therapy. Hence if we explore indications of *Prachhannakarma* in *Bruhatrayi*, we can understand the vast scope of this treatment modality. Unfortunately, there is no compilation of such references of *Prachhannakarmain Bruhatrayi* available. This article is result of meticulous efforts taken to compile the references of *Prachhannakarma* all together from *Bruhatrayi*.

Table 1: Sushruta Samhita

<b>Sushruta Samhita [3]</b>			
<b>Sr.No.</b>	<b>Reference</b>	<b>Detail</b>	<b>Prachhanna karma indicated as</b>
1.	<i>Sutra sthana</i> 11/18	The patient to be treated by alkali should be made to sit in a spacious place free from wind and the sun while all the requisite equipment should be arranged as mentioned. Then after locating the spot it should be rubbed, scraped and scarified and the caustic alkali should be applied thereon with a rod waiting thereafter till one hundred short letters ( <i>matra</i> ) are pronounced (seconds).	<i>Prachhannakarma</i> prior to the <i>Ksharapratisharaneeyakarma</i> in <i>Kaphajadushti</i> roga.
2.	<i>Sutra sthana</i> 13/8	<i>Prachhannakarma</i> prior to the application of <i>Shrunga</i>	Indicated as prior to the application of <i>Shrunga</i> or <i>Alabu</i> application.
3.	<i>Sutra sthana</i> 14/25-26	Two types of bloodletting- scarification ( <i>Prachhannakarma</i> ) and Vene-puncture. In scarification, one should drive the instrument clearly, widely, finely, evenly, neither deep nor superficial, with promptness taking care not to injure vital spots, blood vessels and joints.	A type of bloodletting method and Method of performing <i>Prachhannakarma</i> .
4.	<i>Sutra sthana</i> 16/23	In case of undeveloped ears anterior sided scarification should be done if do not grow even on application of fomentation and unction.	As principal procedure
5.	<i>Shareer sthana</i> 8/25-26	In localized lump, scarification is useful.	Indication of <i>Prachhanna karma</i> according to depth of morbidity.
6.	<i>Chikitsa sthana</i> 9/10	In case of <i>Kustharoga</i> , <i>Prachhannakarma</i> prior to <i>Lepa</i> of certain medicinal combination is advised.	As a pre procedure of <i>lepa</i> application.
7.	<i>Chikitsa sthana</i> 20/14	In case of unripen <i>vidarika</i> , bloodletting should be done with the help of <i>Prachhanna karma</i> .	As principal procedure of treatment.
8.	<i>Chikitsa sthana</i> 20/25	In case of <i>Indralupta</i> , *Deep* scarification is indicated.	As prior to <i>lepa</i> application.
9.	<i>Kalpa sthana</i> 1/49	The site of inflammation should be scarified and then rubbed with <i>dhataki</i> flowers, <i>haritaki</i> , and seed of <i>jambu</i> fruit mixed with honey, or root of <i>ankota</i> or bark of <i>saptaparna</i> or seed of <i>sirisa</i> mixed with honey should be used as rubbing recipe.	As Prior to <i>lepa</i> application.
10.	<i>Kalpa sthana</i> 5/16 and 5/50	In case of <i>Sarpadasha Chikitsa</i> , <i>Prachhannakarma</i> is indicated prior to the <i>Lepa</i> application of combination of anti-poisonous drugs.	As pre procedure of application of <i>Lepa</i> of anti-toxic combination.
11.	<i>Uttar tantra</i> 13/14	<i>Prachhannakarma</i> should be done prior to the <i>Lekhanakarma</i> in four <i>vartmgat</i> diseases ( <i>Vartmavbandh</i> , <i>Klishtavartma</i> , <i>Bahlvartma</i> and <i>Pothaki</i> )	Pre procedure of <i>lekhanakarma</i> in these four diseases.
12.	<i>Uttar tantra</i> 14/9	In case of <i>shleshmopanaha</i> with association of <i>rakta</i> scarification after incision should be done at local site.	Post procedure of incision of <i>shleshmopanaha</i> .

Table 2: Charaka Samhita

Charaka Samhita [4]			
Sr.No.	References	Detail	Prachhanna karma indicated as-
1.	Chikitsa sthana 5/32	In case of <i>Gulma</i> , <i>Raktamokshana</i> is indicated (through horn etc. according to <i>Ayurvedadipikateeka</i> ) to treat the root cause (vitiating <i>Rakta</i> ).	Pre procedure to horn application ( <i>Shrungavacharana</i> )
2.	Chikitsa sthana 7/40	In case of Minor <i>kustha</i> , <i>prachhannakarma</i> is indicated	As a therapeutic procedure in minor or mild <i>Kushtharoga</i> .
3.	Chikitsa sthana 7/50	Stable, hard and round patches of <i>kustha</i> should be sudated with <i>prastara</i> (stone-slab) or <i>nadi</i> (tube) method of sudation and then <i>prachhannakarma</i> should be done with <i>kurchaShastra</i> .	As a therapeutic procedure should be executed with help of <i>kurchaShastra</i> .
4.	Chikitsa sthana 7/ 52-53	Process of <i>Prachhannakarma</i> is described to do after sudation.	Either as principal procedure or prior to <i>shrunga</i> / <i>alabu</i> or <i>lepa</i> application.
5.	Chikitsa sthana 7/53	<i>Raktamokshana</i> prior to the <i>lepa</i> application in <i>kustha</i> in process to cleans the seat of morbidity.	Either as principal procedure or prior to <i>Lepa</i> application.
6.	Chikitsa sthana 7/54-57	In case of <i>Kaphajakustha</i> , before <i>Kshara</i> application <i>Prachhannakarma</i> is indicated.	As pre procedure of <i>Kshara</i> or <i>agada</i> application.
7.	Chikitsa sthana 14/61	In treatment plan of <i>Arsha</i> , <i>Raktamokshana</i> with <i>Jalauka</i> , Instrument or needle pricking ( <i>Prachhannakarma</i> ).	As main procedure to <i>raktanirharana</i> from piles if not getting effect by <i>sheetaushnachikitsa</i> .
8.	Chikitsa sthana 21/68-69	In case of <i>ShakhagataVisarpa</i> , horn application ( <i>Shrung</i> ) is indicated. ( <i>Prachhannakarma</i> prior to horn application).	As pre procedure of <i>vishana</i> or <i>alabu</i> application according to <i>dosha</i> .
9.	Chikitsa sthana 23/39	In process of <i>VishaChikitsa</i> , <i>Raktaharana</i> is advised to do either in manner of ' <i>Prachhannakarma</i> ', horn application, leech application or venesection.	As a principal treatment or prior to application of <i>lepa</i> application.
10.	Chikitsa sthana 25/55	<i>Prachhannakarma</i> is included in six types of surgical procedures.	Described as one of the six principal surgical procedures.
11.	Chikitsa sthana 25/60	Indication of <i>Prachhannakarma</i> is described in <i>vatasruk</i> , <i>granthi</i> , <i>pidika</i> , <i>kotha</i> , <i>raktamadala</i> , <i>kustha</i> , <i>abhihataanga</i> , and <i>Shotha</i> .	Indications of diseases in which <i>Prachhannakarma</i> can be done as principal procedure.
12.	Chikitsa sthana 29/36,37,38	In <i>vataashonitachikitsa</i> , if disease is spreading in extremities, joints then <i>raktamokshana</i> by any possible method is indicated. <i>Prachhannakarma</i> , horn/gourd application, leech application or venesection. If disease is shifting from place to place, <i>Prachhannakarma</i> or venesection is indicated.	As pre- procedure of <i>shrunga</i> , <i>alabu</i> also with <i>suchi</i> , and as principal procedure for bloodletting in <i>vatarakta</i> according to <i>dosha</i> involved and strength of patient.

Table 3: Ashtanga Hridaya

Ashtanga Hridaya [5]			
Sr.No.	References	Detail	Prachhanna karma indicated as-
1.	Sutra sthana 26/51-54	Detailed Process of <i>Prachhannakarma</i>	Either as a principal procedure or prior to the <i>Shruna</i> / <i>Alabu</i> application.
2.	Sutra sthana 30/27	<i>Prachhanna karma</i> prior to <i>Kshara</i> application locally.	Prior to the <i>Kshara</i> application.
3.	Chikitsa sthana 19/15	In case of Minor <i>kustha</i> disease, <i>Prachhanna karma</i> , horn or gourd application is indicated to use accordingly.	As principal procedure of treatment if <i>Kushtha</i> is mild/minor.
4.	Chikitsa sthana 22/2	In case of <i>vatashonita</i> , <i>Raktamokshana</i> according to symptoms described including <i>Prachhanna karma</i> , <i>shrunga</i> application, <i>alabu</i> application.	Either principal procedure or prior to the <i>Shruna</i> / <i>Alabu</i> application.
5.	Uttara sthana 24/28	In case of <i>Indraluptachikitsa</i> , <i>Prachhanna karma</i> is indicated before applying the drug combination.	Prior to the <i>lepa</i> application.
6.	Uttara sthana 30/3 (in vimarsha of 8)	In case of <i>Granthi</i> , chronic swellings is treated with the <i>Prachhannakarma</i> is advised.	As principal procedure of treatment.

Table 4: Ashtanga sangraha

Ashtanga sangraha [6]			
Sr.No.	References	Detail	Prachhanna karma indicated as-
1.	Sutra sthana 34/12	Description of <i>Angulitrana kayantra</i> for <i>Raktamokshana</i> in mouth	Use of instrument for <i>Prachhanna karma</i>
2.	Sutra sthana 34/18	Description of <i>Nakhasashtra</i> for <i>Prachhannakarma</i>	Use of instrument for <i>Prachhanna karma</i>
3.	Sutra sthana 34/22	Description of All the instruments used for <i>Prachhanna karma</i> and <i>Kuttanakarma</i> with <i>Suchi Kurchasashtra</i> is also mentioned	Use of instrument for <i>Prachhanna karma</i> .
4.	Sutra sthana 35/8-11	Detailed method of <i>Prachhanna karma</i> execution	Either as the principal procedure or prior to <i>Shruna</i> / <i>Alabu</i> or <i>Kshara</i> application.
5.	Sutra sthana 39/12	<i>Prachhannakarma</i> before <i>Ksharakarma</i>	Prior to the <i>Kshara</i> application
6.	Chikitsa sthana 21/52	In cases of small lesions of <i>Kustharoga</i> , <i>Prachhannakarma</i> is indicated	as a principal procedure of the treatment
7.	Chikitsa sthana 21/56	In cases of <i>Kustharoga</i> <i>Prachhanna karma</i> is indicated before <i>Lepa</i> application	Prior to the <i>lepa</i> application
8.	Chikitsa sthana 24/2	In case of <i>Vatshonita</i> if pain is travelling place to place then to remove the vitiated blood <i>Prachhanna karma</i> is indicated	As a principal procedure of the treatment.
9.	Uttara sthana 12/ 6	In case of <i>Pakshmathata</i> the hair follicles should be pricked by needed tip.	As a principal procedure to treat <i>pakshmathata</i> .
10.	Uttara sthana 12/25	Use of <i>Mandalagrashastra</i> for making oblique incisions.	This procedure mentioned in the <i>Shloka</i> resembles to <i>Prachhanna karma</i> prior to <i>Lekhana karma</i> .

These above mentioned references are mentioned in texts with mentioning the '*Prachhanna karma*' word itself. Besides these, many references mentioned only to use the *shrunga*, *alabu* or to perform the *raktamokshana*, but as a *ayurveda* practitioner one should understand that *Prachhanna karma* should be performed prior to *shrunga* or *alabu* application or whether to perform the *Prachhanna karma* in that particular reference for *raktamokshana* or not.

#### Detail of instruments indicated in texts for *Prachhanna karma*

*Aachraya Sushruta* mentioned following list of *Shastras* used for *visravana* purposes [7]:

- *Suchi*
- *Kush patra*

- Aati mukh
- Sharari mukh
- Antarmukh
- Trikurchaka

Acharya Vagbhata in *Ashtanga Sangraha* mentioned below listed sharp instruments for *Prachhanna* [8]:

- Kushpatra
- Aatamukh
- Antarmukh
- Sharari mukh
- Trikurcha
- Nakhsashtra

We can divide all these instruments in following categories according to their manufacturing and mode of application:

**Table 5:** Categories according to their manufacturing and mode of application

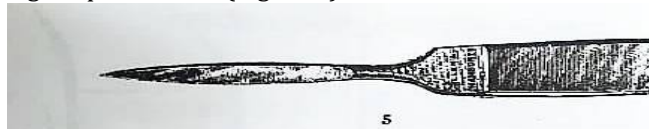
Type of <i>Prachhannakarma</i>	<i>Shashtra</i> name and type of <i>shashtra</i>	Mentioned by
Parallel superficial incision	<i>Kushpatra</i> , <i>Aatimukh</i> , <i>Nakhsashtra</i> (Knives), <i>Shararimukh</i> , <i>Antarmukh</i> (Sissors)	<i>Sushruta Samhita Sutra Sthan</i> and <i>Ashtanga Hridaya Sutra Sthan</i>
Multiple puncturing	<i>Trikurchaka</i> , <i>Kurcha</i> , <i>Khaja</i> ,	<i>Sushruta Samhita Sutra Sthan</i> and <i>Ashtanga Hridaya Sutra Sthan</i>

Among all the enlisted instruments *Kushpatra*, *Atimukh* and *Nakhsashtra* are described as knives, *Shararimukha* and *Antarmukh* are described to be scissors and *Trikurchaka*, *Kurcha* and *Khaja* Shastra are mentioned as multiple needled instruments [9].

#### Traditional instruments used for *Prachhanna karma* [9]

##### Kushapatra

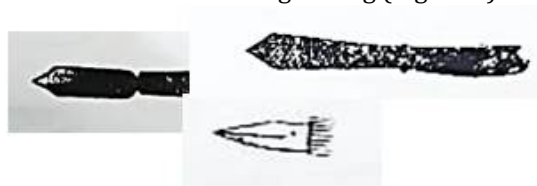
A knife resembling the leaf of a *kusa* grass (*poacynosuroids*) in shape is described measuring six *angul* long, the blade measuring two *angul* and the handle four *angul*. It is to be used for draining pus from abscess. The handle has a ring like ornamentation, about one *angul* in diameter. *Aacharya Cakradatta* uses *kusapatra* as a bleeding lancet and says to puncture the two out of twelve black blood vessels underneath tongue by catching them with *vadishyantra*. *Aacharya Palakapya* mentioned to use the *kusapatra* for incising deep abscesses (Figure 1).



**Figure 1.** Kushapatra

##### Atimukh

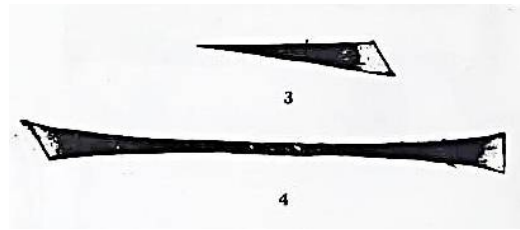
This instrument is described to have the shape like the beak of the *Jalavardhini* bird or *ati* (*turdus ginginiamus*), a bird living in the marshes. It is six *anguli* long; the blade measuring two and the handle four *angul*. So it is of the same size as the *kusapatra* to which is also resembles in function. *Aacharya Bhoja* is of opinion that its blade is one and handle seven *anguli* long (Figure 2).



**Figure 2.** Atimukh

##### Nakha Shastra

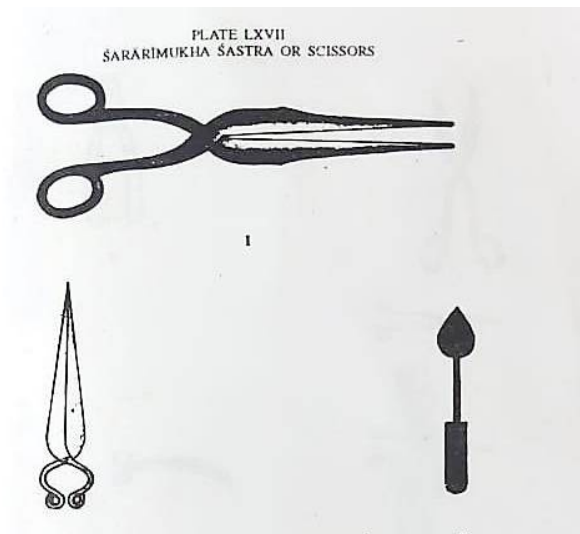
*Aacharya Sushruta* mentions its length to be eight *angul*. *Dalhana* says that its blade is two *anguli* long and one *anguli* broad. *Vagbhata*, on the other hand, describes the length to be nine *anguls*. *Arunadatta* thinks to be a double instrument, one end having a straight edge and the other an oblique one. Some explain that two different kinds of *nakha Shastra*- one with a straight and the other with an oblique edge are directed to be used. They are principally recommended for cutting puncturing and scarifying, and also for the extraction for needles and minute foreign bodies from the soft parts (Figure 3).



**Figure 3.** Nakha Shastra

### Shararimukha

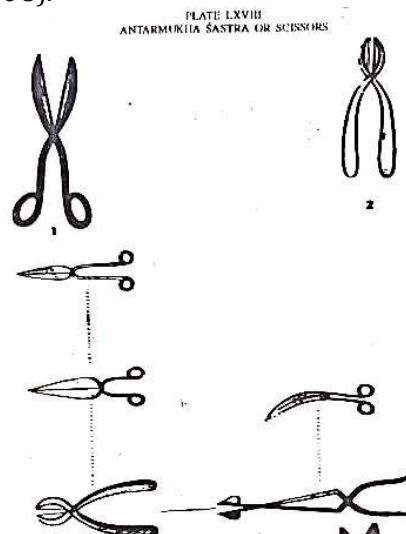
This instrument is a pair of scissors resembling the face of the long beaked bird called sarari. Acharya susruta describes its length to be ten anguli, while dalhana mentions the length to be twelve anguli. It is recommended to be used for evacuating abscess etc. Acharya sushruta mentions kartari as a synonym but Acharya Vagbhata counts it as a separate instrument. He describes kartari as a pair of scissors used by the barbers for clipping hair and is said to have been necessary for diving the nerves, ligaments and fine hairs (Figure 4).



**Figure 4.** Shararimukha

### Antarmukha

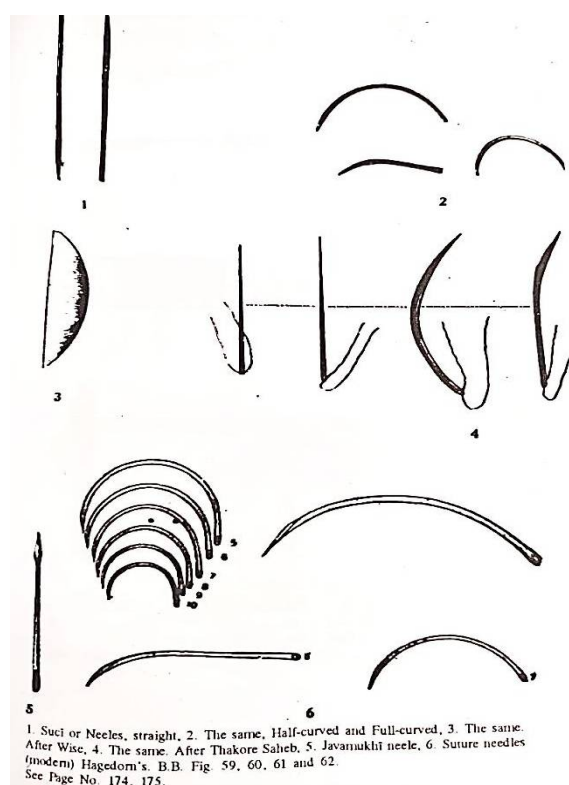
Acharya Suśruta describes another variety of scissors, used principally for evacuating abscesses. It is so named, for its straight cutting edges are within its curved claws. It is said to be six anguli long and one and a half anguli broad. Acharya Vagbhata describes a variety called arddhacandranan or "half-moon faced" scissors in which the blades are curved like the half-moon. It has the length of eight anguli, the blade measuring one and half anguli. This is also to be used for letting out pus from abscesses. Acharya harita also mentioned an instrument named ardhachandra which mentioned to be used for excising the dead fetus during the delivery (Figure 5).



**Figure 5.** Antarmukha

## Suchi

Three different types of needles are recommended to be used for applying sutures. They all should be strongly made and rounded in shape. At one end they should be flattened, grooved and pierced with an eye for the suture. The groove is said to have been intended to be the bed of the suture during stitching to prevent it from doing any harm to the tissue. In fleshy parts such as thighs, a three ribbed needle, three anguli long, is advised to be used. For less fleshy parts and wounds about the joints, a similar straight needle but two anguli long should be employed, while for suturing the wounds of stomach, intestines, scrotum and the vital parts of the body, preference is given to a needle curved like a bow, two and a half angulis long and having the pointed end shaped like a paddy. In thickness, these needles are described to be equal to the stalk of the flower of malati (*Jasminum grandiflorum*). They should have sharp fine points and good shape. Aacharya Susruta makes mention of javamukhi needle (lit. having the sharp end shaped like a barley corn) for passing a double ligature. In modern times, the surgeons use fully curved, half curved and straight surgical needles for suturing the incision either curved for deeper incision or straight for superficial incision. Aacharya Caraka recommends the use of leeches, knives and needles for extracting blood from the piles. He also advises is to use needles for pricking the patches of leprous spots for extracting blood. The needles are also recommended to be used for extraction of foreign bodies from the soft structures, for evacuating abscesses and scarification (Figure 6).



**Figure 6. Suchi**

## Trikurchaka

It has been translated in English as an instrument consisting of three needles fixed on a round wooden handle. According to Suśruta, the length of the instrument is six anguli. But others describe it as eight anguli long, the blade and the handle measuring three and five anguli respectively. The distance between the edges is the breadth of a grain of rice. The end of the handle is ornamented with a circular metallic plate as a ring. It is recommended to be used for evacuating abscesses and for draining blood from the nasal polyps (Figure 7).



Trikūrccaka Śāstra (p. 194)

**Figure 7.** Trikurchaka**Kurcha**

Aacharya Charaka mentions an instrument called kurcha indicated for raktavisravana after fomenting and thus softening the rounded nodules (of leprosy) which are fixed and hard, by heated stones and fumigations through tubes. Aacharya Vagbhatta also described about kurcha Shastra as an instrument consisting of seven or eight rounded sharp needles, four anguli long, nicely bound together by a cord and tightly fixed on a circular wooden handle. He mentions its use in the operation of scratching to cure baldness and the brown and black spots on the face.

**Figure 8.** Kurcca**Khaja**

Aacharya Vagbhatta described about the instrument named "The khaja" consists of eight rounded needles having the sharp ends half an anguli long indicated for treating the nasal polyps by introducing it into the nostrils and turned to and fro with both hands.

**Figure 9.** Khaja**Traditional method of Prachhannakarma**

As written in *Sushruta samhita*, for scarification (*Prachhannakarma*), one should drive the instrument clearly, widely, finely, evenly, neither deep nor superficial, with promptness taking care not to injure vital spots, blood vessels and joints [10]. In *Ashtanga sangraha*, Aacharya Vagbhatta explained regarding *Prachhanna karma* that the incisions are to be done at places, where there are no tendons, joints, bones and vital spots and after tightly tying above the part of the incision, with a rope or cloth (tape-like). The incision are to be made starting wide and below and going upwards; they should not very deep, wide or oblique and they should not be done one over the other (incision) [11].

**Conventional method of Prachhanna karma**



All these surgical and para-surgical procedures should be done after finding the general investigation reports within normal limits and taking the well written informed consent. After that, taking patient in a comfortable position, surgical preparation of the site by painting the site with betadine solution and draping the site properly with sterile drape should be done. In conventional method, instead of previously described ancient special sharp instruments simple modern surgical instruments are being used due to disposable feature and easy availability. At present, surgical blade No 11 is mostly used for *Prachhanna karma* to make multiple parallel incisions on superficial skin layer. For the same purpose, 11 no surgical blade is fixed in the scalpel and to make superficial scars, slight movement of fingers with no or gentle pressure on the skin in the manner of parallel fashion is applied taking the gap of approximate 1 to 3 mm as the length of each incision should be 3 to 5 mm (Figure 10).



**Figure 10. suchi**

In another type of *Prachhanna karma*, multiple punctures are made with the help of *suchi* i.e. surgical needle. In such method, a sterile surgical needle is taken and multiple superficial puncture is made with exerting mild pressure on the needle with fingers on the skin repeatedly to penetrate the tip of needle approximately 1 to 3 mm deep on the different sites spacing approximately 2 to 3 mm gap in between them. After making the scars, one should wait for the blood to ooze-out from the skin surface and do not promote or stop it intentionally. Just gentle mopping of the blood is sufficient either with the sterile gauze piece or sterile cloth. After self-cessation of oozing of the blood, one should clean the site. Patient is advised not to rinse the local part with unsterile water and not to hang the part continuously for the initial couple of hours.

#### ***Prachhanna karma* now a day**

Now a day, instead of all the described instruments many other instruments are used for such purposes. As we can relate the micro needling procedure as the modified *Prachhannakarma* [12], so the instruments like Derma roller, derma stamp and derma pen can be also used for the *Prachhannakarma* procedure.



**Figure 11. Instruments for Prachhanna karma**

#### **Probable Mode of action of *Prachhanna karma***

According to *Ayurveda* concept, after *Prachhannakarma* i.e. taking superficial parallel incisions or multiple superficial punctures in skin, vitiated *Rakta* is drawn out by the body itself along with the vitiated *dosha* stimulating the natural physiology of *Prakrutadosha* and *dhatu* to take place and reducing the *Vyadhi* and the symptoms. According to the modern point of view, *Prachhanna karma* enhances the drug delivery system across the skin as it bypasses the stratum corneum and deposit the drug directly to the vascularized dermis. As well as after taking the superficial parallel incisions stimulates the wound healing cascade to start. In the manner to heal the wound, body releases few growth factors like PGF, TGF- alpha and Beta, connective tissue growth factor etc. which promotes to form the neovascularization and angiogenesis which removes the toxic blood from the site and promotes the healthy tissue to regrow thus disease reduces.

## DISCUSSION

*Prachhanna karma* is an *Ayurvedic* para-surgical method to perform *Raktamokshana* in patients suffering from mostly skin diseases, as it stimulates skin layer to start the wound healing cascade. *Aacharya Sushruta* mentioned the details of *Saptatwacha* along with their depths and diseases originating from particular skin layer in the *Shareer Sthana* of *Sushruta samhita*. *Raktamokshana* is indicated in many of these diseases. Apart from these diseases, describing the management of *Kshudraroga*, *Indralupta* is mentioned to treat with the *Prachhanna karma* followed by *Lepa* application of certain medicinal combination. While describing the treatment regimen of *Indralupta*, *Aacharya* advised to perform deep scarification in order to treat the disease whereas there is no certain depth mentioned in *Samhita* to perform the *Prachhannakarma*. While describing multiple needled instruments, *Aacharya Vagbhata* mentioned a metallic ring as a part of *Kurcha Shastra*. Many other commentators dictate the use of metallic ring as the controller of depth as a simple mechanism. Considering these particular evidences, the *Prachhannakarma* should be precised according to the specific skin layer. But in the conventional method of *Prachhannakarma* executed by sharp instruments, there is no any mechanism regarding the calibrated dispersal of the sharp ends in the depths of skin. In such condition efficacy and precision rely upon just the skill of *Shalya Chikitsak*. With current technological advancement, we can redevelop the *Shastras* with calibrated dispersal of sharp end in order to precise the use and increase the efficacy of procedure. The concept of tension lines or Langer's lines [13-16] also can be considered in the multiple parallel superficial incision method.

## CONCLUSION

*Prachhanna karma* can be described as an easy, OPD based, effective method for performing *Raktamokshana*. *Prachhannakarma* is indicated for accumulated vitiated *Rakta* i.e. *Pindita Rakta*. *Prachhannakarma* is directly indicated as the principal procedure of treatment plan e.g. in undeveloped *Karna Pali*, *Pindit rakta*, unripen *Vidarika*, minor and mild *Kustha*, *Piles*, *Vatasruka*, *Granthi*, *Pidika*, *Kotha*, *Raktamandala*, different *Kustha*, *Abhighata Anga*, *Shotha*, *Vatashonita* and *Pakshmashata*. *Aacharya Charaka* indicated to use *Kurcha Shastra* for executing *Prachhannakarma* in *Kushtha* and *Suchi* for pricking the *Piles*. *Prachhannakarma* also indicated as *Poorva karma* or as pre procedure to perform before *Shringa/Vishana* application, *Alabu* application, *Kshara* application, *Agada* application in *Visha Chikitsa*, *Lepa* application of medicinal combination in *Kustha & Indralupta*, and prior to *Lekhanakarma*, also as post procedure of *Shleshmopanaha* after taking incision. These above indications of *Prachhannakarma* suggest the efficacy of the process. With the technological advancement, it is now possible to standardize the process of *Prachhannakarma* according to the depth of *Saptatwacha*. For this, the concept of *Saptatwacha* and disease attributed to the specific layer should be described in the light of *Ayurvedic* knowledge. As *Prachhanna karma* is very easy and OPD based procedure with the promising results to the patients, this should be popularized more among the *Ayurvedic* practitioners. Description of surgical instruments along with the treatment in *Ayurvedic* classics suggests using specialized instrument in various surgical procedures. Hence, Use of Modified instruments according to the indication of *Prachhannakarma* would make this procedure a very effective, inexpensive and safe treatment for many skin diseases. With the technological advancement of current era, *Ayurvedic* procedure should be developed by redesigning the instruments and procedures according to need and efficacy to increase the quality of life of the patient. This kind of redesigning will surely help us to make a good *Ayurvedic* OPD set up according to the different specialities.

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