



REVIEW STUDY OF YANTRA, SHASTRA AND ASHTAVIDHA KARMA IN SHALAKYA TANTRA

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ABSTRACT

Importance of *Ayurveda* is increasing day by day and people are looking towards *Ayurveda* as an alternative to contemporary medicine. Wide description is available in *Ayurvedic* classics regarding various surgical instruments (*Yantra*, *Shashtra*) used in different branches of *Ayurveda* for carrying out clinical examination; medical and operative procedures. *Hasta* (Hand)¹ is considered as the *Pradhantamam yantra* because surgical instruments are in many ways simply extension of human hand. Surgical instruments such as forceps, dilators, speculums etc are similar to the 101 *Yantras* and 20 *Shastras* mentioned in *Ayurveda* e.g., *Samdansha Yantra*, *Naadi Yantra*, *Shalaka Yantra*, *Mandalagra Shastra*, *Vetasapatra Shastra*, *Suchi*, *Shararimukha Shastra* etc. To perform various procedures in *Shalakyia Tantra*, use of blunt and sharp instruments are described in detail. In this article we have discussed about those *Yantras* (Blunt instruments) and *Shastras* (sharp instruments) and various *Shashtra karmas* used in *Shalakyia tantra*.

KEYWORDS: *Yantra*, *Shashtra*, *Shashtra karma*.

INTRODUCTION

Ayurveda is one of the oldest science of disease, rather a complete therapeutic science. The traditional literatures of *Ayurveda* encompass many evidences related to the utility of *shalya chikitsa* in various health ailments. *Acharya sushruta*, the father of surgery described many concepts of surgery and application of *shastra karmas* for different therapeutic purposes. *Asthtavidha shastra karma* described in *Sushruta samhita* focuses on various forms of surgical interventions which can be used to cure the disease, the *shalya chikitsa* not only utilizes sharp instruments (*Shashtra karmas*) but this branch also suggest uses of blunt instruments (*Yantra karmas*) for many medical purposes. From ancient texts, *Kaviraj gananath sen* has shown that most modern surgical instruments are only minor modifications of the instruments used daily by ancient physicians. Here we are discussing about *yantras*, *shastras* and *ashtavidha shastra karmas* used in *Shalakyia tantra* in various ways.

Yantras

शल्यणानां आहारणोनायो यंत्राणण ।

- तत्र मनःशरीरबाधाकरणण शल्यानन,तेषामाहरणोनायो यंत्राणण ॥४॥^[2]

Foreign bodies that cause pain to *Manah* and *Sharir* is called *Shalya* and the methods to remove these are called *Yantras*. Based on innumerable *Shalyas*, *Yantras* can also be innumerable. But to have birds eye view, *Acharyas* have classified *Yantras* into 101 types.^[3] Though *Yantras* are indicated for specific function but *Vaidya*, applying his *Yukti*, can use them accordingly to his purpose and can also invent and make new instruments. *Yantras* can be taken as blunt instruments as per their description in texts. Based on the *Aakriti* or shape, *Yantras* are of 6 main types: *Swastika*, *Samdansha*, *Taala*, *Naadi*, *Shalaka*, *Upayantra*.^[4] In this article, 5 main types of *Yantras* are discussed. Among all the *yantras*, *Hasta* is considered as the *Pradhantamyanttra* because surgical

instruments are in many ways simply extension of human hand.

Yantra name	Correlate with	Praman	Sankhya
Swastika Yantra	Cruciform like instrument	18 Angula	24
Sadansha Yantra	Pincer like instrument	16 Angula	2
Tal Yantra	Spoon shaped instrument	12 Angula	2
Nadi Yantra	Tubular instrument	According to use	20
Shalaka Yantra	Rod like instrument	Vividhakar	28
Upa Yantra	Accessory instrument	Sandhi,kostha,Dhamani yathayogya	25

Swastika yantra

तत्र स्वस्तकयांत्राण_अष्टादशान्तुगुरप्रमाणानन,ससहवां

्याघवकृ तरक्ष्व

सुदर्नमाजाशृगारमृगैवाारुककाककुरचाषभासशा

घायुरुकचचस्त्रशयेनगृध्रक्रौभांग्

राजाज्जसरकणावभज्जननस्त्दमुखमुखानन,मसुराकृत

सभःककरैवाब

धदानन,मूरेऽन्तुकुशवदावृत्तवारांगाण, अस्थवद-

ष्शल्योद्धरणाथमा नुनशदश्यन्ते ॥१०॥^[5]



These are 24 in number.

They are named so because of their resemblance to swastika shaped mark; being joined by Masura (cereal) shaped nail at edges. These are 18 angula long and bear resemblance like the face of various animals like Sinhamukha (lion), Vyaghramukha (tiger), Vrikamukha (Wolf), Rikshamukha (bear), etc. and birds like kankamukha (heron), kaakmukha (crow), Bhashmukha (eagle) etc. At their base, they are bent like circular ring to facilitate grasping.

Foreign body which is visible-Sinhamukha yantra. foreign body which is invisible-Kankamukha.

eg.-Cheater's forceps, Sponge holding forcep, Kochers forcep, Mayo's towel clip, Artery forceps, Haemostat, Allis tissue holding forceps, Babcocks forceps, Needle Holder.

Sadansha yantra

सननग्रहोऽननग्रहश्च सांदांशौ षोडशान्तुगुरो भवतः।

तौवडमांसससरास्नायुगतशल्योद्धरणाथा-

मुनशदश्येते ॥११॥^[6]

Sadansha means to catch or hold. These are 16 angula long.

These are of 2 types

- Sanigraha (with catch) e.g. Dressing forceps, sponge holding forcep, needle holder, artery forceps, mosquito forceps.
- Anigraha (without catch) e.g. plain forceps etc.

According to Vagbhta — Sanibandhana and Niribandhana.^[7]

One type of Sandanshyantra is 6 angula long and half angula wide.

The *sandanshyantra* can be correlated to the dissecting forceps used in modern surgery.e.g-Plain non-toothed dissecting forceps,Toothed dissecting forceps.



Taalyantra

They are named so because of their resemblance to palate of fish (scoop like). These are 12 *Angula* long. They are of two types: *Ektaal* (having scoop at one end) *Dwitaal* (having scoop at both the ends) They are used to remove *Shalya* from ear canal, nasal cavity, *Naadi*.^[8]

The *tala yantra* can be correlated to the Scoops used in modern surgical procedures.

1.Ear Scoop-To clean the ear canal of ear wax.



2.Volkmanns Scoop-To scoop cavities,ulcer bed,granulation tissues.

Nadi yantra

“नाडीयांत्राणण-अप्यनेकप्रकाराणण अनेकप्रयोजनानन
एकतोमुखानन, उभयतोमुखाननच
ताननस्त्रोतोगतशल्योध्दरणारथां
,रोगदशानाथाम,श्राचूषणारथां
,कक्रयासौकर्ययाारथज्चेनत।ताननस्त्रोतोदार
नररणाहाननयथायोगशदरघा णणच।।१३॥”^[9]

Nadiyantra are of 20 types. Hollow from inside.

- Strotogatashalyauddarnarth-* To remove the *shalya*/foreign bodies from *strotas*.
- Rog Darshanarth* (to visualise disease). It is type of *Nadiyantra*.
- Dhooma yantra*-used for *Dhooma pana*.Can be correlate with Inhalers.

It is 16 *angula* long, hollow in centre has four walls,surrounded with a ring from outside and resemble an unblossomed lotus flower. The base of all four walls are attached with small rods, the pressure on which opens or widens the mouth of instrument. Used as a diagnostic apparatus for inspection of diseases in the canals.

Shalaka yantra

These are not hollow from inside. These are 28 in number.

- Gandupadmukhi shalaka***: The upper end of this *shalaka* is slightly curved.
- Sarpaphanamukhi shalaka***: Its shape is like serpents hood.it is used to retract the incised part.It can be compared to Tooth elevator.
- Badishmukhi shalaka***: *Acharya sushruta* has included *Badisha* under *shalaka yantra* and *shastra* both. These are 2 in number. This can be compared to the Hook like instrument.
- Karpasa kritoshniya***: It is of 6 types, cotton is applied on its upper end e.g. sterile cotton and used for cleaning of wounds and applying *kshar*.They are used for wiping.These can be compared to the Swab probes.
- Jambavavadana shalaka***- Upper part is oblong like seed of jambu. It is of 3 types — *Sthula*, *Anu*, *Dirgha*.^[10]
- Mutramarga vishodhini shalaka***: It is long and broad like *Pushpavrinta*, used for *Vishodhana* of *Mutramarga* or dilation of urethral passage or in urethral stricture.e.g.urethral sound or bougie.
- Garbha shanku shalaka***: Both *Vagbhatas* have included *Garbhashanku* under *Shalaka yantra*. It is 8 *angula* long, curved.
- Angulitranakyantra / Mudrika***,^[11] It was used to guard fingers while doing *shalya karma* e.g.finger guard or surgical rubber / latex gloves.
- Badishamukhi yantra***: It is also described under *shastras* for extraction and its upper end is curved. It can be correlated with various types of hooked instruments.
- Ankusha vadana***: These are three in number.It has the shape of an Elephant drivers goad.Both *jambava* and *ankusha vadana* are used for *agnikarma*.
- Kolasthimatra mukha***: It is sharp at the periphery and depressed at the middle.Used for the extraction of *Nasa arbuda*.It can be compared to a Nasal curette.
- Anjana shalaka***: It is 8 *angula* in length with a thickness of a *kalaya* and the ends are shaped like buds. Used for the purpose of application of collyrium.

Upayantra

Upayantras are those which are similar to *yantras*,but are inferior to *yantras*.

Lata, vastra, Asthilashma, Mudgara, Panipadatala, Anguli, Jihwa, Danta, Nakha, Mukha, Bala, Ashawakataka ring, Shakha, Shteevana, Pravahana, Harsha, Ayaskanta, Kshara, Agni, Bhesaja comes under *Upayantra*.

Shastras^[12]

शस्त्रांशह शरररशांसकसमनत ।

These are taken as sharp edged instruments.

Number - *Palkapya samhita*-10, *Harita Samhita*-12, *Sushruta samhita*-20, *Vagbhata* -26.

Shastra	Correlate with	Karma
<i>Mandalagra</i>	Circular knife	<i>Chhedana, Lekhana</i>
<i>Karapatra</i>	Bone saw	<i>Chhedana, Lekhana</i>
<i>Vridhipatra</i>	Scalpel	<i>Chhedana, bhedana</i>
<i>Nakhashastra</i>	Nail parer	<i>Chhedana, bhedana</i>
<i>Mudrika</i>	Ring knife	<i>Chhedana, bhedana</i>
<i>Utpalapatra</i>	Lancet	<i>Chhedana, bhedana</i>
<i>Ardhadhara</i>	Single edged knife	<i>Chhedana, bhedana</i>
<i>Kushapatra</i>	Bostoury	<i>Visravana</i>
<i>Aatimukha</i>	Hawkbill scissors	<i>Visravana</i>
<i>Shararimukha</i>	Scissors	-
<i>Antarmukha</i>	Curved bistoury	<i>Visravana</i>
<i>Kutharika</i>	Chisel	<i>Vedhana</i>
<i>Trikurchaka</i>	Brush	<i>Visravana</i>
<i>Vrihimukha</i>	Trocar	<i>Vedhana</i>
<i>Aara</i>	Awl	<i>Vedhana</i>
<i>Vetasapatra</i>	Kind of scapel	<i>Vedhana</i>
<i>Badisha</i>	Sharp hook	<i>Aaharana</i>
<i>Dantashanku</i>	Tooth scalar	<i>Aaharana</i>
<i>Eshani</i>	Sharp probe	<i>Eshana, Visravana</i>
<i>Suchi</i>	Suturing needle	<i>Seevan, Vedhana</i>

Mandalagra shastra — Its shape is like nail of index finger. Used for *Lekhana* and *Chhedana* karma.

Karapatra shastra — Its shape is like *Karvat* leaf, ¹³size according to *Sushruta* 6, *Vagbhata* 10, *Bhoja* 12 *angula*.

Vridhi patra shastra — It is 7 *angula* in *pramana*. It is used to perform *Bhedana* karma. There are two types: 1) *Riju* (*prayatagra*)- It is straight, 2) *Natagra* (*Anchitagra*)- It is curved

Nakha shastra — *Acharya Sushruta* mention its length to be 8 *angula*, it has one straight and one oblique edge.

Mudrika /anguli shastra- In this instrument, a ring of the size of first knuckle of index finger is fitted with half *angula* size of blade, the ring is tied with a strong thread. Used for excision, incision.

Utpalapatra shastra — It has sharp edge like that of *utpala* leaf. The size of the blade is 3×1 *angula*. *Dalhana* said its length 6 *angula*.

Ardhadhara shastra — It is 8 *angula* in length and used in *Bhedana* karma.

Aatimukha shastra— Its name is according to *aatimukhjalvardhini*,^[14] name of bird. it is 7 *angula* in *pramana*.

Antarmukha shastra- Its like half moon shaped, 8 *angula* in *pramana*.

Trikurchaka — It is made of 3 *kurcha*, 8 *angula* in *pramana*.

Kutharika — It is like *kuthar* (Axe), its *phal* is 7 *angula* in *pramana* and the *ayam* of *vrint* is ½ *angula* and it is like *Godant*.

Vrihimukha — It is 6 *angula* in which *vrint* is 2 and *phala* is 4 *angula*.

Aara shastra^[15] - 8 *angula* in *pramana*, *Til pramana phala*, *durvankur parinah* and *vrint* like *gopuchha*.

Vetasapatra shastra - According to *bhoja*, its size is 4×1 *angula*.

Badisha shastra — According to *Dalhana*^[17] its size is 6 *angula* and that it has sharp upper end like a thorn. The excision of *arbuda* is done with *mandalgrashastra* after holding with a *Badisha*.

It is of two types 1) *Natyanata* (not much curved) 2) *Swanata* (too much curved)

Dantshanku — It is 6 *angula* in *ayam*.

Eshani — Its circumference is according to wound.

Suchi^[16] - Detailed description is available in *Samhitas*. There are three types of *suchi*

Vritta suchi — Round body needle, 2 *angula* long .used for suturing at *Alpamansasthana*, soft tissue and in joint area.

Aayat/tridhara suchi — 3 *Angula* long, it has three edges. used for suturing at *mansalsthana*.

Dhanurvakra suchi — It can be triangular like *tryastraor* round like *vrita*. used in *marmaphalakosha* and *udara*.

Shararimukha shastra — It resembles the long beak of a bird *sharari*, it is 10 *angula* long, Dalhana has called it as *Kartari*. It is used for *Raktavisravana* (bloodletting or drainage of pus).

Ashavidha shastrakarma

All the operative procedure used in *shalakya tantra* are utilization of *ashtavidha shastrakarmas* in various ways. Surgical treatment is advised for 40 eye diseases; *Chedana*-11,*Bhedana*-5,*Lekhana*-9,*Vyadhana*-15

Shastrakarma	Netra roga	Mukha roga
<i>Chhedana</i> -excision	5 types of <i>Arma</i> , <i>Arsho Vatma</i> , <i>Shuskarsha</i> , <i>Arbuda</i> , <i>Sirajala</i> , <i>Sirapidaka</i>	<i>Adhimansa</i> , <i>Galasundhika</i> , <i>Tundikeri</i> , <i>Aghrusha</i> , <i>Kurma</i> , <i>Sanghata</i> , <i>Talupupputa</i> , <i>Kantha shaluka</i> , <i>Gilayu</i>
<i>Bhedana</i> -Incision	<i>Lagana</i> , <i>Visa vatma</i> , <i>Krimigranthi</i> , <i>Anjana namika</i> , <i>Upanaha</i>	<i>Medaja otha prokapa</i> , <i>Galavidradhi</i>
<i>Lekhana</i> -Scraping	<i>Kumbhika</i> , <i>Sharkara</i> , <i>Utsangini</i> , <i>Shyava vatma</i> , <i>Kardama vatma</i> , <i>Vatmavabandha</i> , <i>Klishhta vatma</i> , <i>Bahalav atma</i> , <i>Pothaki</i> .	<i>Kaphaja jihvakantaka</i> , <i>Upajihva</i> , <i>Adhijihva</i>
<i>Vyadhana</i> -Puncturing	<i>Sirotpata</i> , <i>siraharsha</i> , <i>sashopha akshi paka</i> , <i>Asopha akhipaka</i> , <i>Anyatovata</i> , <i>Puyalasa</i> , <i>Vataparyaya</i> ,4 types of <i>Abhisyanda</i> and 4 types of <i>Adhimantha</i> .	

DISCUSSION

Acharya Sushruta lists 101 varieties of blunt instruments and 20 different types of sharp instruments that should have such a fine edge that they divide the skin's hair. Scalpels, lancets, saws, scissors, needles, hooks, probes, dilators, sounds, forceps, trocars, catheters, syringes, candles, rectal & vaginal speculums are the main instruments made of iron.

CONCLUSION

We stand on the shoulders of our forebears, as has been said repeatedly and appreciation of this heritage is perhaps more necessary than ever as innovation succeeds innovation quickly. Based on the description given in ancient Ayurvedic classics in the context of Yantra Shastras (surgical instruments), it can be concluded that in *Shalya Chikitsa* as well as in *Shalakya tantra*, nearly every instrument used in the present era either for medical examination or medical / operative procedure was used over ages.

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