

CONCEPTUAL STUDY ON SASTRAS – A REVIEW

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ABSTRACT

There are millions of operations and surgical procedures performed every day for a variety of causes throughout the world. When undergoing surgery, patients have a great deal of faith in the surgeon. Surgical Instruments are important asset to any surgery and they play a vital role in conducting successful surgeries. All Surgical treatments contain a significant level of danger if certain precautions are not taken, regardless of the skill and capability of the surgical personnel. Surgical instruments are of prime importance which been appropriately described by Acharya Sushruta with detailed application, manufacturing as well as preservation of sharpness of instruments. Similarly Acharya Vagbatta, Harita Samhita, Hastiayurveda, Yogaratnakara they have also given excretes about Sastras and their utility in surgery.

KEYWORDS: Sastras, Sushrutha Samhita, Astanga Hridaya, Haritha Samhita, Hasti Ayurveda, Yogaratnakara

INTRODUCTION

Yantras are the blunt instruments and Sastras are the Sharp instruments that are considered as two important aspect of the Surgery. Surgical equipment have been identified as one of the main factors contributing to an infection outbreak following surgery, even in most successful cases. The Surgeons in the ancient time consist of good number of surgical instruments. Acharya Susrutha mentioned 20 types of Sastras.¹Acharya Vagbhata mentioned 26 kinds of Sastras.²Haritha mentioned 12types of Sastras in HarithaSamhitha.³Palakapya mentioned 10types of Sastras in Hasthi Ayurveda(Treatment for Elephants).⁴

MATERIALS FOR INSTRUMENTS:

Acharya Susrutha says – ‘A Wise Surgeon should get the instruments made of pure iron

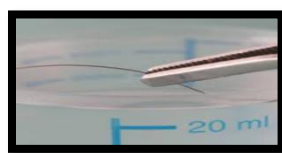
and with sharp edges by an expert blacksmith who is skilful and experienced in his craft’.⁵ Acharya Charaka mentions to cut the navelcord of the newborn ardhadhara type of instrument made of gold, or silver or iron.⁶Yogarantakara mentioned a cautery of gold, to burn fistulous track around the anus.⁷

EDGES FOR SHARP INSTRUMENTS

Four different types of edges:⁸

- Masuri : Bhedana(incision)
Eg: Vridhipatra, Nakhashastra
- Ardha masuri : Lekhana(scraping)
Eg :Mandalagra
- Kaishiki :
Vyadhana(puncturing) Eg :Kutharika
Visravana (draining)
Eg: Kushapatra.

- Ardha Kaishiki : Chedana(excision) Eg :Vridhipatra.
- But Acharya Vagbatta mentions as a Masuri



Edge of the lentil

Edge of the hair

TYPES OF SASTRAS ACCORDING TO VARIOUS ACHARYAS:

ACHARYA SUSHRUTA - 20 TYPES	ACHARYA VAGBATA -26 TYPES	HARITHA SAMHITA -12 TYPES	HASTI AYURVEDA (PALAKAPYA)-10 TYPES
Mandalagra	Mandalagra	Ardhachandra	Vridhipatra
Karapatra	Vrddhipatra	Vrihimukha	Kusapatra
Vrddhipatra	Utpalapatra	Kankapatra	Mandalagra
Nakhasastra	Adhyarddhadhara	Kutharika	Vrihimukha
Mudrika	Sarpasya	Karavirakapatraka	Kuthari
Utpalapatra	Esandupadamukha, Sucimukha	Salaka	Vatsadanta
Arddhadhara	Vetasa	Karapatraka	Utpalapatra
Suci	Sarari	Badisha	Salaka
Kusapatra	Trikurccaka	Grudhrapada	Suci
Atimukha	Kusapatra	Suli	Rampaka
Sararimukha	Ativadana	Suci	
Antarmukha	Antarmukha	Mudgara	
Trikurccaka	Vrihibaktra		
Kutharika	Kuthari		
Vrihimukha	Kura Vakasala		
Ara	Anglisastra		
Vetasapatraka	Badisa		
Badisa	Karapatra		
Dantasanku	Kartari		
Esani	Nakhasastra		
	Dantalekhana		
	Suci		
	Kurcca		
	Khaja		
	Acha		
	Karnavedhani		

Table no. 1 - Types of Sastras according to different Acharyas

TEMPERING OF SHARP INSTRUMENTS (SHAstra PAYANA):

1) Three types of tempering for sharp instruments:⁹

- Kshara payana : for chedana of shara, shalya and asthi.
- Udaka payana : for chedana, bhedana and patana of mamsa.
- Taila payana : for sira vyadhana and chedana of snayu.

2) Acharya Vrudha Sharangadhara mentions about Payana of arrow heads with paste of Pippali, Saindhava and Kushta with Gomutra and heated to red hot. In another instance he mentions about smearing Sastras with Panchalavana, Sarsapa and Madhu and heat them in furnace followed by dipping in water. When the color resembling those of a peacocks feather are displayed then the burning is adequate.¹⁰

3) Muni Sukracharya mentions the Payana of swords in Brihat Samhita. A milk from mare, a camel and an elephant, mixture of fish bile, deer milk, horse milk, goat milk, blended with toddy and then with Arka Ksheera, Aja sringa, Paravatha sakrut is fit for piercing stone.¹¹

GOOD AND BAD QUALITIES OF SURGICAL INSTRUMENTS:

Acharya Susruta mentioned it should have a well-made handle, affording a firm grasp, it should be made of iron of good quality, it should have fine edge, a pleasant shape and a well finished point.

Acharya Susruta points out eight defects of the instrument – they must not be bent, or blunt, or broken, or jagged, or too thick, or too thin, or too long, or too short.¹²

Acharya Vagbatta also mentioned same defects.¹³

METHOD OF HOLDING SURGICAL INSTRUMENTS:

- Vruddhipatra has to be held in Sadharana Bhaga i.e, junction between Vrunta and

Phala. Other Shastras used for Bhedana should be used in the same manner.

- Vruddhipatra and Mandalagra have to be held in supine position most frequently for Lekana karma.
- Trikurchika, Soochi and Kusapatra which are used for Visravana have to be held at the terminal part of the Vrunta specially when operating on – Bala, Vrddha, Sukumara, Naari, Raaja and Raja Putra.
- Vrihimukha has to be held between the thumb and forfinger in such a way that the handle is completely covered by the palm.
- The handle of the Kutharika Sastra has to be held in the left hand and the stroke should be given by the middle finger with the help of fore finger of right hand such that movement is under the control of the thumb.
- Aara, Karapatra and Esani should be held at their Proximal end.

NISANA – SHARPENING OF THE INSTRUMENTS:

- According to Acharya Susruta – For sharpening the blade of the instruments a smooth stone slab of the color of masha varna(black gram) is used.
- For keeping the sharpened blade a pod of Shalamali fruits (with silk cotton inside) should be used.

SASTRA KOSHA – INSTRUMENT BOX:



- To preserve the edges of the cutting instruments, a case made of wood of Salmali (*Bombax Malabaricum*) was used.¹⁴
- It should be of 9Anguli width and 12Anguli length and compact, It should be made either from ksauma (linen – linseed), patra (thick and durable dry leaves), oma(wool), kauseya (silk), dukula(inner bark of trees) or mrudu charma (soft leather) bound with string. Well stiched with inner compartments for


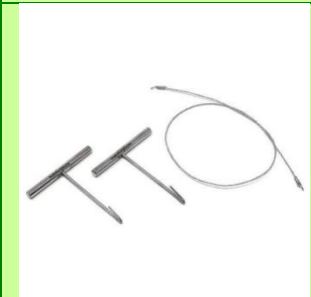


instruments kept wrapped in wool, its mouth should be clipped tightly with wire.¹⁵







ANCIENT INSTRUMENT CASE

DETAILED DESCRIPTION OF SASTRAS:

SL NO	NAME OF THE INSTRUMENT	APPLICABILITY / USES ACCORDING TO DIFFERENT ACHARYAS	PRAMANA	IMAGES
1	MANDALAGRA – ROUND HEADED KNIFE, SHARP CURETTE:	<ul style="list-style-type: none"> • It is described as a round for circular headed cutting instrument, It is of two types – vrutta and kshura.¹⁶ • Acharya Vagbhata describes the blade to shaped like the index finger when its nail points towards the palm of hand.¹⁷ • Acharya Susruta recommends in scraping away pterygium.¹⁸ • Cakradatta mentioned for scraping the tongue in jihvakantaka.¹⁹ • The end is full – moon shaped and is directed to be used for scarification on the eyeball.²⁰ • Used for Chedana and Lekhana Karma. 	<ol style="list-style-type: none"> 1. Length is 6 Anguli 2. Palakapya describes length of nine anguli, the handle being six and blade three anguli long.²⁰ 	 <p>MANDALAGRA SASTRA</p>  <p>SHARP CURETTE</p>

2	<p>KARAPATRA – SURGICAL SAW OR GIGLI SAW</p>	<ul style="list-style-type: none"> •It is described as ‘an instrument having the blade in the form of a hand’, the fingers being represented by the teeth of the saw. •The Edge of the instrument is described as rough and serrated and this is the only instrument that need not have a very sharp edge. •It is used in Astichedana, also used for Chedana and Lekhana. 	<p>1.Acharya Susruta mentioned its length to be six anguli. 2.Acharya Vagbatta mentioned 10anguli long and 2anguli broad.</p>	 <p>KHARAPATRA SHASTRA</p>  <p>GIGLI SAW</p>
3.	<p>VRUDDHIPATRA – SCALPEL</p>	<ul style="list-style-type: none"> •It is resemblance to the leaf of medicinal plant Vrudhi. •Acharya Vagbatta mentioned it is of 2 types – one is anchitagram and the second is prayathagram. For using in elevated swelling, it should be straight and in deep swelling it should be curved at the back. •It is used for chedana and bhedana karma and also used for Eshana karma in nadivrana.²¹ 	<p>1.Acharya Susruta mentioned 6 Anguli long. 2.Palakapya mentioned it is 10anguli long; the handle being 6anguli and the blade 4anguli and 3anguli broad²¹</p>	 <p>VRUDDHIPATRA SASTRA</p>  <p>SCALPEL</p>
4	<p>NAKHA SASTRA</p>	<ul style="list-style-type: none"> • used for chedana and 	<p>1.Acharya Susruta</p>	

	<p>- NAIL PARER:</p>	<p><i>bhedana</i> karma.</p> <ul style="list-style-type: none"> It is used for cleaning the nails and feet of the elephant. He calls it by the name <i>rempaka</i>.²² 	<p>mentioned length is 8anguli long</p> <p>2.Acharya Vagbatta mentioned length to be 9anguli</p> <p>3.Palakapya mentioned having the handle 10anguli and the blade 3anguli long.</p>	 <p>NAKHASHASTRA</p>  <p>NAIL PARER</p>
<p>5</p>	<p>MUDRIKA RING KNIFE :</p>	<ul style="list-style-type: none"> It is also called Anguli sastra. Acharya Vagbatta mentioned that the mouth of anguli sastra looks as if coming out of a ring, It is used for chedana and <i>bhedana</i> of Kantagata roga 	<p>1.Acharya <i>Susrutha</i> mentioned it has a cutting instrument of the size of the last phalanx of index finger.</p> <p>2.Acharya Vagbatta mentioned blade is half anguli long.</p>	 <p>MUDRIKA SASTRA</p>  <p>RING KNIFE</p>




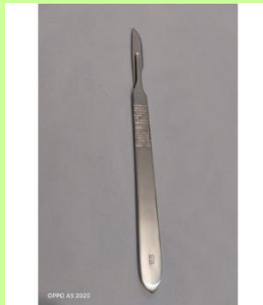
6	<p>UTPALAPATRA – LANCET :</p>	<ul style="list-style-type: none"> •The blade of the shastra looks similar to the petal of utpala. •It has got a sharp edge. •Used for Chedana and Bhedhana. 	<p>1. <i>Palakapya</i> mentioned it to be 8 anguli long, 1 and half anguli broad and double edged.²³</p>	 <p>UTPALAPATRA SASTRA</p>  <p>LANCET</p>
7.	<p>ARDDHADHARA – TYPE OF KNIFE</p>	<ul style="list-style-type: none"> •Also Known as Vakra dhaaram. •<i>Acharya Vagbatta</i> mentioned it as Adhyadhadhara Sastra. The shastra is called so because half of the length of the shastra is sharp. 	<p>1. According to <i>Acharya Susruta</i> it is 8 Anguli in length; Blade is 2 Anguli board</p>	 <p>ARDDHADHARA SASTRA</p> <p>ARDDHADHARASASTRA</p>  <p>KIND OF KNIFE</p>





<p>8</p>	<p>SUCHI – NEEDLES</p>	<ul style="list-style-type: none"> •These are suturing needles which are mainly used for visravana and seevana karma. •Palakapya mentioned suci shaped like a tusk of elephant and are either three ribbed, or four ribbed, or round, smooth and strong. He mentioned curved three cornered needles for fleshy parts and round needles for skin, vein , nerves and arteries.²⁵ 	<p>1.It is of 3 types: A) Vritta – Round body needle, 2Anguli long. •B) Trikonaka or Trisra – Triangular in shape, 3Anguli in length. •C) Dhanurvakra – Needle curved like a bow, 2 and a half anguli long. 2.Palakapya mentioned 8Anguli long.</p>	 <p>SUCHI SASTRA</p>  <p>NEEDLES- CURVED AND STRAIGHT</p>
<p>9</p>	<p>KUSAPATRA – BISTOURY</p>	<ul style="list-style-type: none"> •It is a form of knife resembling in the shape of Kusa grass and used for visravana karma. 	<p>1. According to Acharya Susrutha length of blade – 6 Anguli; 2. Acharya Vagbatta length of blade – 2 Anguli 3. Palakapya mentioned it is 9Anguli long – handle being 5 or 6 Anguli and the blade 4Anguli long. The blade is one and half anguli wide and is sharp - edged on both sides.²⁶</p>	 <p>KUSHAPATRASASTRIYA</p>  <p>BISTOURY</p>



10	<p>ATIMUKHA SHORT SURGICAL SCISSORS</p>	<p>–</p> <ul style="list-style-type: none"> •The instrtrument which resembles the bird aati(Turdus ginginiamus) is known as aatimukha shastra. •It is used fot visravana karma. 	<p>1.Acharya Susruta – Length : Seven and half Anguli Blade : One and half Anguli Handle: Seven Anguli</p>	<div data-bbox="1128 205 1433 552" data-label="Image"> </div> <p data-bbox="1192 554 1369 621">ATIMUKHA SASTRA</p> <div data-bbox="1128 659 1433 982" data-label="Image"> </div> <p data-bbox="1143 1020 1419 1087">SHORT SURGICAL SCISSORS</p>
11	<p>SARARIMUKHA PAIR OF SCISSORS</p>	<p>–</p> <ul style="list-style-type: none"> •It is a pair of scissors resembling the face of the long beaked bird called Sarari. •Acharya Susrutha mentioned Karttari as synonym and used for Visravana Karma. 	<p>1.Acharya Susruta -10 Anguli 2.Acharya Vagbatta – 12Anguli.</p>	<div data-bbox="1149 1104 1406 1430" data-label="Image"> </div> <p data-bbox="1149 1432 1406 1499">SHARARIMUKHA SASTRA</p> <div data-bbox="1149 1507 1406 1787" data-label="Image"> </div> <p data-bbox="1203 1789 1352 1856">PAIR OF SCISSORS</p>

<p>12</p>	<p>ANTARMUKHA EPISIOTOMY SCISSORS</p>	<p>•Acharya <i>Susruta</i> mentioned as another variety of scissors used for <i>visravana karma</i>. •Acharya <i>Vagbatta</i> mentioned as <i>Chandraardham</i>;</p>	<p>1. <i>Acharya Susruta</i> - 6Anguli long and one and half Anguli broad 2. <i>Acharya Vagbatta</i>- 8 Anguli length, blade measuring one half anguli.</p>	 <p>ANTARMUKA SASTRA</p>  <p>EPISIOTOMY SCISSORS</p>
<p>13</p>	<p>TRIKURCCAKA – DERMA PEN OR DERMA ROLLER</p>	<p>•Acharya <i>Susruta</i> mentioned it as an instrument consisting of three needles fixed on a round wooden handle.</p>	<p>1. <i>Acharya Susruta</i> mentioned length -8Anguli, Handle -5Anguli Spike – 3sides</p>	 <p>TRIKURCCHAKA SASTRA</p>  <p>DERMA ROLLER</p>

14	<p>KUTHARIKA – AXE SHAPED KNIFE OR CHISEL</p>	<ul style="list-style-type: none"> •<i>Acharya Susruta</i> mentioned it has a small instrument shaped like a teeth of cow. •<i>Palakapya</i> mentioned it as kuthara and is used for <i>chedhana</i> and <i>lekhana</i> karma.²⁷ 	<p>1.<i>Acharya Susruta</i> – width one Anguli. 2.<i>Acharya Vagbatta</i> – Handle 7 and half Anguli long and thicker and broader balde to be fitted for that.</p>	<div data-bbox="1159 170 1398 457" data-label="Image"> </div> <p data-bbox="1198 457 1365 520" style="text-align: center;">KUTARIKA SASTRA</p> <div data-bbox="1151 527 1365 814" data-label="Image"> </div> <p data-bbox="1224 814 1338 842" style="text-align: center;">CHISEL</p>
15	<p>VRIHIMUKHA – TROCAR</p>	<ul style="list-style-type: none"> •The sharp end is being pointed and shaped like a grain of paddy. •Used in the paracentesis abdomen²⁸ and in tapping the hydrocele.²⁹ •<i>Chakradatta</i> mentioned <i>Vrihimukha sastra</i> in the context of surgical treatment of ascities.³⁰ •<i>Palakapya</i> mentioned <i>Vrihimukha</i> as shaped like a grain of paddy and recommends it for incision and excision of munja.³¹ 	<p>1.<i>Acharya Susruta</i>: Length – Six Anguli; Body – four Anguli; blade – half Anguli. •<i>Acharya Vagbatta</i> - length of blade to be One and half Anguli.</p>	<div data-bbox="1170 905 1409 1283" data-label="Image"> </div> <p data-bbox="1175 1283 1386 1346" style="text-align: center;">VRIHIMUKHA SASTRA</p> <div data-bbox="1170 1352 1409 1654" data-label="Image"> </div> <p data-bbox="1175 1654 1386 1717" style="text-align: center;">TROCAR AND CANNULA</p>

16	ARA – AWL	<ul style="list-style-type: none"> •Used for <i>Vyadhana</i> karma •<i>Palakapya</i> mentioned similar instrument for perforating the ears of the elephants named as <i>karmara</i> or <i>nali</i>.³² 	<ol style="list-style-type: none"> 1. <i>Acharya Susruta</i>- length Six Anguli. 2. <i>Acharya Vagbatta</i> – length One anguli. 	 <p>ARA SASTRA</p>  <p>BONE AWL</p>
17	VETASAPATRAK A – A KIND OF SCALPEL	<ul style="list-style-type: none"> •Sastra which looks like a bamboo leaf. •It is used in <i>Vyadhana</i> karma 	<ol style="list-style-type: none"> 1. <i>Acharya Susruta</i>: Length- 4Anguli Blade- 4Anguli Handle- 4Anguli long; 1Anguli wide 	 <p>VETASAPATRA SASTRA</p>  <p>A KIND OF SCALPEL</p>

18	<p>BADISA - SHARP HOOK</p>	<ul style="list-style-type: none"> •<i>Acharya Susruta</i> mentioned it as the end of the hook is sharply edged and is said to have the resemblance of new leaf of java (<i>Hordeum Vulgare</i>). •<i>Palakapya</i> mentioned the end being rounded like a wheel. It is used for raising the membranes of the eye.³³ 	<p>1.<i>Acharya Susruta</i> : Length – 4Anguli Handle- 5 and half Anguli Bend – Sharp and wide bend.</p> <p>2.<i>Palakapya</i> mentioned 8Anguli long.³³</p>	 <p>BADISA SASTRA</p>  <p>SHARP HOOK</p>
19	<p>DANTA SANKU - TOOTH SCALER</p>	<ul style="list-style-type: none"> •<i>Acharya Susruta</i> mentioned the end is slightly bent, sharp and shaped like the fresh leaf of java(<i>Hordeum Vulgare</i>). •<i>Acharya Vagbatta</i> mentioned the similar instrument called <i>danatalekhana</i>. It is quadrangular in shape, one side being sharp edged and opposite side little lengthened. •It is recommended to be used for the extraction of tartar from the teeth.³⁴ •<i>Palakapya</i> mentioned similar instrument named <i>Enipada</i> which is used for extraction of tooth.³⁵ 	<p>1.<i>Acharya Susruta</i>: Length – Six Anguli; Bend – half Anguli; Tip-flat.</p> <p>2.<i>Palakapya</i> : Length – 32Anguli Long and equal to tooth of circumference.³⁵</p>	 <p>DANTASANKU SASTRA</p>  <p>TOOTH SCALER</p>

20	ESANI – SHARP PROBES	<ul style="list-style-type: none"> •The ends of the probes are generally shaped like a head of the earthworm. •They are used as probes to ascertain the direction of sinuses. •Palakapya mentioned <i>Esani</i> in the surgical treatment of disease of the elephants. He describes three probes – smooth and shaped like collyrium rods.³⁶ 	<p>1. <i>Acharya Susruta</i> - 8Anguli long.</p> <p>2. <i>Palakapya</i> - ten, twenty and thirty anguli long respectively.³⁶</p>	 <p>ESANI SASTRA</p>  <p>SHARP PROBE</p>
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SIX ADDITIONAL INSTRUMENTS BY ACHARYA VAGBATTA:

- 1. SARPASYA – THIN BLADED CURVED SCALPEL:** It has a blade of half anguli and is used for excision of polyps in nose and ears.(fig a)
- 2. SHALAKA – SHARP PROBE, CATARACT NEEDLE:** It is made up of copper with two edges. It is used for vyadhana karma of linganasha (matured cataract).(fig b)
- 3. KARTTARI – SURGICAL SCISSORS:** It is similar to household scissors, used for Chedhana (Excision) of Snayu (tendons), sutra (thread) and kaca (hair).(fig c)
- 4. KURCHA – NEEDLE CLUSTER FOR PRICKING:** It is bundle of 7 to 8 needles

fixed on a single circular platform. All needles are cylindrical; 4Anguli in length and is used for kuttana (pricking) in nilika (bluish pigmentation of the body), vyanga(hyperpigmentation on face) and kesasatana (alopecia).(fig d)

5. KHAJA – CHURNER: Application end has eight spikes loaded on a circular platform. It is half Anguli diameter and is meant for blood – letting from the nose by churning with both hands.(fig e)

6. KARNAVEDHANI – EAR LOBE NEEDLE : It is suchi of 3Anguli length for puncturing the ear lobes, its tip resembling the shape of bud of yuthika (jasmine) and one third of it being hollow.(fig f)

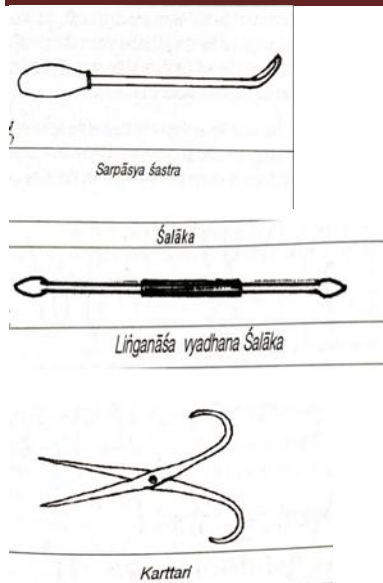


Fig a – Sarpasya Sastra **Fig b – Salaka Sastra**
Fig c – Kartari Sastra

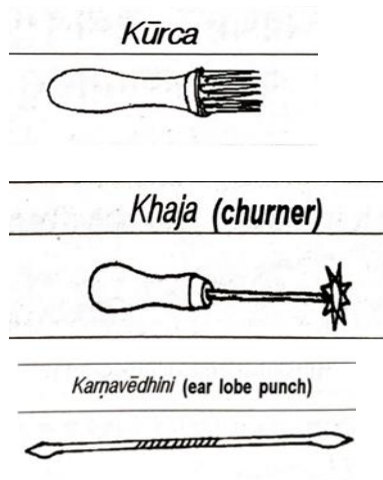


Fig d – Kurca Sastra **Fig e – Khaja Sastra**
Fig f – Karnavedhini

DISCUSSION

•In the earlier times, man closely studied the natural world since he lived so close to it. Based on these observations, the numerous surgical tools created at the time were given names of animal, bird, etc.

For Example – Aatimukha Sastra , Shararimukha Sastra

• Modern Surgical instruments are called after the scientists or doctors who developed them since credit is now given to the person who developed it or designed it.

For Example – Mayos towel clip, Kochers forceps ,Babcocks forceps.

•Acharya Susruta has mentioned Sastras should be made up of Pure and Strong Iron. But Pure Iron(Fe) is highly corrosive and soft, which gets rusted easily.

•But when the metals like carbon, chromium, nickel, magnesium, silicon and Sulphur are added it gives hardness, adds consistency when the metal is welded and provides ductility.

•The degree to which the steel becomes ‘stainless’ is determined by all these metals.

•This type of steel is rust and corrosive resistant, has a good tensile strength and will provide a sharp edge for repetitive use.

•Mandalagra, Vruddipatra, Karapatra, Utpalapatra, Soochi, Kushapatra, Aathimuka, Shararimukha, Kutarika, Vrihimukha, Aara, Vetasapatra, Badisha, Dantasanku and Eshani Sastras have been widely used even today for various surgeries.

•Limitations of the use of Trikurchaka Sastra(it is used only to clean Laproscopic instrument), Ardhadhara, Mrudrika and Nakha Sastra is seen.

•Few Instruments are used in modified form. Eg – Karapatra. Gigli saw is a flexible wire saw used by surgeons for bone cutting.

•Method of handling (holding) shastra have been explained by Acharya Susruta , which holds good even today like

A) Pencil grip – Used to make short and fine incision (Vruddipatra)

B) Finger tip grip – It is used for long incision and it allows maximum cutting edge(Vruddipatra and Mandlagra).

C) Palm grip – Strongest and used when great pressure is required.(Aara , Karapatra and Eshani).

•Acharya Sushruta further tells about importance to maintain sharpness of Sastras, Stroage of Sastras so that sharpness will not be affected.

•Bifurcation of particular instruments are also given.

For example – Mandalagra Sastra used for Chedhana and Bhedhana

Mudrika Sastra pertaining to the level of throat.

•History has many of examples of foreign invaders carrying ancient medical and surgical writings with them when they left. This might be one of the reasons for the resemblance of the modern era instruments to those mentioned in our classics in one or the other way.

CONCLUSION

•Acharya Susruta was probably the first surgeon to describe different types of surgical instruments in detail.

•Acharya Susruta's concepts of surgical instruments, the description of their quality and their usage are very unique.

•The numerous instruments mentioned in classics gives one a free hand to develop or use an instruments based on requirement.

•So indeed Acharya Susruta can be considered as 'Father of Surgery'

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