

PLASTIC AND RECONSTRUCTIVE SURGERY IN AYURVEDAhuja Deepak Kumar¹ Mishra Vandana²¹Dept of Shalakyta Tantra, S. R. M. State Ayurvedic College, Bareilly, Uttar Pradesh, India²Practitioner, Bareilly, UP, India**ABSTRACT**

Sandhan karma as described by *Acharya Sushruta* is a very old science which can be compared with the plastic surgery or reconstructive surgery in recent times. It is however very difficult to say when the first reconstructive operation on mankind was performed. *Sushruta Samhita*, which describes the ancient tradition of surgery in India, contains detailed descriptions of teachings and practice of the great ancient surgeon *Acharya Sushruta*. He has written about all the surgical diseases, their causes, types, prognosis and treatment, especially about the wounds. There are several *Siddhanta* or basic principles of *Sushruta* which are at the root of today's surgery. *Shashti-Upakrama* is one among these principles. *Shashti-Upakrama* is the sixty types of treatment described for wound. *Sandhan-Upakrama* is one of them. *Dalhana* described the term *Sandhana* as unions of organs which are separated due to injury or trauma in his commentary. Today *Sandhan* is at its advanced position in the form of plastic and reconstructive surgery. But originally it was initiated with the Rhinoplasty operation performed by *Sushruta* called as *Nasasandhan*. Besides this, *Sushruta* has also performed *KarnaSandhan* (lobuloplasty) and *Oshtha Sandhan*. The aim of the study is to review the *Sandhan-Upakram* in historical (vedic) and ayurvedic texts and compare it with the present era's plastic and reconstructive surgery.

Keywords: *Sandhana karma*, Plastic surgery, Reconstructive surgery, *Nasasandhan*, *Ostha-sandhan*

INTRODUCTION

Plastic surgery is a medical specialty deals with the repair, reconstruction or replacement of physical defects of form or function involving the face or other parts of body. The term plastic derived from Greek word *Plastikos*, meaning to mould. There are so many *Samhitas* and *Granthas* those are dealing with Ayurveda. Among them *Charaka Samhita*, *Sushruta Samhita* and *Astanga Sangraha* are the three main pillars of Ayurveda. *Charaka Samhita* and *Astanga*

Sangraha mainly deals with medicine knowledge while *Sushruta Samhita* deals mainly with surgical knowledge. Complicated surgeries like Caesareans, Cataract, artificial limbs, fractures, urinary stones, plastic surgery (*Sandhana Karma*) procedures including pre-operative and post-operative treatment along with complications are written in *Sushruta Samhita*, which are surprisingly applicable even in present time. The plastic operation of ear (Otoplasty) and plastic operation of nose (Rhinoplasty) are

described in *Sutra sthana* 16th chapter. Reconstructive plastic surgery is oldest type of surgery of the world. In older time, for giving punishment to the prisoners of wars and making marks for unfaithful wives amputation of nose and cutting of ear lobule, was done by kings. Surgeons were doing reconstructive surgeries for giving correction them. The procedure of Rhinoplasty was written in *Sushruta Samhita* which is almost 800 B.C. old literature.

References of Plastic and Reconstructive Surgery in Vedas

Oldest references of *Sandhan karma* found today even before *Aacharya Sushruta*, are of *Vedic* times. In *Vedik* era, science of *Sandhan karma* was also well developed. *Ashwini kumaras* were the chief surgeons of *vedic* period. There are so many examples of their work in the field of plastic surgery, surgery, Ophthalmology and orthopedic. Lord *Shiva* cuts the head of *Ganesha* in anger and after knowing the truth and on request they join the head of elephant to the *Ganesha*. This is oldest example of transplantation which is well known to us since childhood as told by our mothers and grandmother in stories. *Bispala*, wife of king *Khela*, lost her leg in war. *Ashwini kumaras* transplant her leg by an iron leg¹. The lost part of body of *Rishi Atri* was re-joined by *Ashwini kumaras*. The body of *Acharya Shyaba* was cut into three parts. *Ashwini kumaras* rejoin the all parts and give him life immediately². Beside the *Rigved*, *Padampuran* also have written examples of reconstructive plastic surgery³. *Bhairav* cut the head of *Brhama* and *Dadhichi*. *Ashwini kumaras* rejoined their head. They also transplant the head of *Yahnya*. *Dadhyancha* was the master of *Madhu Vidya*. *Ashwini kuma-*

ras show them interest in learning *Madhu Vidya*. So they cut head of *Dadyyancha* and kept separate. Then they transplant the head of horse to the body of *Dadhyancha* and learn *Madhu Vidya* from them. After learn *Madhu Vidya*, they transplant his own head⁴. *Dakshya* cut head and trunk of *Chyavan*. *Ashwini kumaras* performed the first plastic operation to join them.⁵ According to *Upanishad*, *Ashwini kumaras* also operated and repaired the excised head of *Yagyana* by *Rudra*. *Ashwini kumaras* were doing both homo and hetero transplantations at that time.

Concept of Plastic and Reconstructive Surgery in Ayurveda

The origin of *Ayurveda* occurs from *Vedas*. It is also called fifth *Veda*. *Ashwini kumaras* are known as *Dev Vaidya* in *Ayurveda*. They have done excellent surgical work in *Ayurveda*. *Rigveda* is full of examples of their works. They operated the eyes of *Reejashva*. They also implanted the teeth of *Phushna* in his edentulous mouth. This knowledge of *Ayurveda* descends to the earth by *Ashwini kumaras*. *Sushruta*, people of Lord *Dhanvantari*, has written *Sandhan Karma* (Plastic Surgery) in *Sutra sthana* 16th chapter. He elaborated Rhinoplasty for deformed nose, plastic surgery operation for deformed and cut ear lobules, corrective surgical procedure for cleft lip, injured lips and cleft palate. In the starting of 16th chapter, *Acharya Sushruta* first describe the method of piercing of ear lobule in infants for the purpose of decoration and giving protection from the *graham badha*.⁶ This method is also used in children in present era. Often these ear lobules, due to the use of heavy ornaments, get considerably expanded and ultimately split. *Sushruta* has described fifteen methods of

joining these separated ear lobules.⁷ If a person without ear lobule come to a surgeon, then surgeon should reconstruct the ear lobule by taking a flap of skin from the cheek region; with a pedicle attached to the donor side.⁸ The aim of keeping the skin flap attached to the donor site with a pedicle to maintain the sufficient blood supply. By doing such process, three purpose will be solved. First there occur no complication, secondly the organ will vitalize with sensation and third, healing will be very soon. Same techniques with same manner are used in the present time.

Techniques for Sandhana Karma of Ear lobes-Otoplasty

There are fifteen operative methods to rejoin injured ear lobule-⁹

Nemi Sandhank

Utpala bhedyaka

Vallooraka

Aasangima

Gandakarna

Aaharya

Nirvedhima

Vyayojima

Kapata Sandhika

Ardha Kappata Sandhika

Sankhshipta

Heen Karna

Valli Karna

Kakaushthka

Yasti Karna

Among them 10 techniques are successful, last 5 methods are unsuccessful.

Indications for different methods of Karna Sandhana¹⁰ (Otoplasty)-

1. *Nemi Sandhanka*: This type of Otoplasty should be done when the both fragments of ear lobules are heavy and large in surface and also both are equal in shape and size.

2. *Utpala bhedyaka*: *Utpala bhedyaka* type of Otoplasty is indicated when cut ear lobule is equal in size and shape and both are large around.

3. *Vallooraka*: When cut fragment of ear lobules are small, round, equal in shape and size, Vallooraka type of Otoplasty should be done.

4. *Aasangima*: *Aasangima* type of Otoplasty is indicated when proximal part of cut ear lobule is larger.

5. *Gandakarna*: Similarly when distal part of cut ear lobule is larger; this type of Otoplasty should be done.

6. *Aaharya*: This type of Otoplasty is suitable when both the fragment of cut ear lobules are absent.

7. *Nirvedhima*: *Nirvedhima* type of Otoplasty is indicated when both the fragment of cut ear lobules are absent from the root. In this type remaining part of *Putrika* (Tragus) is making base for surgery.

8. *Vyayojima*: *Vyayojima* type of Otoplasty is indicated when one part of cut fragment is larger than other i.e. both are dissimilar.

9. *Kapata Sandhika* : This type of Otoplasty is suitable when one fragment of cut ear lobule is longer from proximal side and second part is smaller.

10. *Ardha Kappata Sandhika* : Similarly *Ardha Kappata Sandhika* type of Otoplasty is indicated when outer fragment of cut ear lobules is larger in dimensions

Sandhana Karma of Nose (Reconstructive Rhinoplasty)

After explaining the Otoplasty, *Sushruta* elaborate the reconstructive Rhinoplasty in same chapter. He given indication for nose either lost by disease or by trauma/accident. The portion of the nose to be covered should be first measured with a

leaf. Then a piece of skin of the required size should be dissected from the living skin of the forehead or cheek, and turned back to cover the nose, keeping a small pedicle attached to the cheek.

The part of the nose to which the skin is to be attached should be made raw by cutting the nasal stump with a knife. The physician then should place the skin on the nose and stitch the two parts swiftly, keeping the skin properly elevated by inserting two tubes of *Eranda* (the castor-oil plant) in the position of the nostrils, so that the new nose gets proper shape.

After this a powder of *Pterocampus santalenus* (*Lal Chandan*), *Glycerrhiza glabra* (*Mulethi*) and *Rasot* (extract of *Barberis aristata*) should be sprinkled over the operated area. Then the operated part should be covered with cotton pad or gauze pieces and irrigated with sesame oil frequently¹¹.

Ostha Sandhana Karma (Reconstructive Surgery of Cleft Palate)

Injured lip or congenital cleft palate is also reconstructed by same method as discussed above for Rhinoplasty in same chapter. The only difference is that in lip surgery there is no use of stem of *Ricinus communis* (*Eranda naala*). The *Vaidya* who get skilled in these reconstructive surgery, become *Raj-vaidya* i.e. who can treat the king¹².

CONCLUSION

It is very difficult to say that when exactly the first plastic operation was done on man. *Aacharya Sushruta* has described various reconstructive methods and different types of procedures like taking a flap of skin from the cheek region, with a pedicle attached to the donor side.

If we observe carefully, then it is found that, all the basic principles of plastic

surgery like planning, procedure and perfection has its roots in *Sushruta Samhita*. So it can be concluded that the source of plastic surgery is *Sushruta Samhita*, the great Indian Ayurvedic surgical literature, from here it spread worldwide.

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