

ADVANCEMENT IN CONCEPTS OF YOGYASUTRIYAM (SURGICAL PRACTICE)

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Article Received on
12 Aug. 2021,

Revised on 01 Sept. 2021,
Accepted on 22 Sept. 2021

DOI: 10.20959/wjpr202112-21820

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ABSTRACT

Acharya Sushruta was the first person, who learnt and practiced various surgical procedures in approximately 300 BC. He compiled asurgical compendia including other branches of medicine is known as 'Sushruta Samhita' based upon what he had learnt from lord Dhanwantari and Divodash. Hence, he has been known as 'Father of Indian Surgery' after the development of modern surgical era. The teaching principles are laid down in such manner which is unparalleled even today also. He has contributed a special chapter for new learners to extend short hand surgical training is named as 'YogyasutriyaAdhyaya'. This review study focuses on how to learn 'Astavidha Shastra Karma' (eight surgical procedures), Bandhana

(bandaging techniques) etc. on suitable objects. Modern surgery also believes in the similar concept of training. This is the reason why enormous experimental models, simulators have been developed. Present article emphasizes on the ancient and present concept of surgical skill training with a need to incorporate present training techniques in Ayurveda by collaborating both the techniques.

KEYWORDS: Yogyasutriya Adhyaya, Astavidha Shastra Karma, Bandhana, Surgical skills.

INTRODUCTION

Sushruta has very rightly designed and contributed a chapter to learn surgical techniques on objects before practicing of similar techniques on human beings. He has been emphasized so seriously for new learners to practice similar operations on similar objects for obtaining

highest rate of success, otherwise he cannot be a life giver even after thoroughly learnt all the scriptures.

Though Sushruta popularized the science of surgery in olden days, it gradually declined due to various reasons viz, Lack of anesthetic agent, Principles of Jainism and Buddhism, lack of royal patronage, discontinuity in practicing principles of Shalya Tantra, non-disclosure of surgical skills etc.

In the present times practicing the same principles as it is mentioned by Sushruta might not be possible due to numerous reasons. At the same time, same principles can be followed with little modifications as per the present time based on convenience of the Patient and as well as doctor/surgeon.

AIMS AND OBJECTIVES

1. To discuss the practical modifications of the surgical training techniques of Sushruta.
2. To discuss regarding surgical training techniques as mentioned in contemporary system.
3. Correlating both the techniques in surgical training.

SOURCE OF DATA

Sushruta in his *Yogyaasutriyamadhyayam* -9th chapter of *Sushruta Samhita Sutrasthana*, clearly explains the importance of surgical training for students. He explains the techniques of surgical training prior to *Vishikhanupravesham* chapter in which he explains regarding entering of a medical student from academic field to professional practice field where the student deals with the patients directly. The main reason of this ordered presentation of chapters is that before entering in to medical profession the medical student has to master the art of surgical practice and techniques on nonliving objects and on living beings if there is no major intervention, in order to become a successful Surgeon

Eight surgical procedures and methods to demonstrate/practice them.

Incision

To be practiced on Pushpaphala, Alabu, watermelon, cucumber.

Excision

Demonstrated by making openings in the body of a full water-bag or in the bladder of a dead animal, or in the side of a leather pouch full of slime or water. Scraping Should be instructed on a piece of skin having hair Puncturing Taught on the vein of a dead animal, or with the

help of a lotus stem. Probing should be taught on worm (Ghuna) eaten wood, or on the reed of a bamboo, or on the mouth of a dried gourd.

Extraction

Extracting should be taught by withdrawing seeds from the kernel of a bimbi, bilva or Jack fruit, as well as by extracting teeth from the jaws of a dead animal.

Drainage

Evacuating should be taught on the surface of a Shalmali plank covered over with a coat of bee's wax. Suturing Should demonstrate suturing on pieces of cloth or skin.

Bandaging

Bandaging or ligaturing should be practically learned by tying bandages round the specific limbs and members of a full-sized doll made of stuffed linen.

Ear lobe repair.

Demonstrated on a soft severed muscle or on flesh, or with the stem of a lotus lily.

Cauterization and Alkali application.

Demonstrated on a piece of soft flesh.

Importance of Practical knowledge

Prime importance has been given for practical knowledge along with textual knowledge. Sushruta says one who lacks practical knowledge and cannot apply the theoretical knowledge into practice is just like a coward in the battle field who can neither fight the opponents nor die with courage.^[2]

Need for advancement in concepts of Yogyasutriyam for Ayurvedic students

In the ancient period Sushruta who knew the importance of practical training, taught practical surgical training to surgical students i.e to students of Dhanwantari Sampradaya before they entered the field of practicing, with limited things that was available around them. At present, due to advancement in technology, 3D to 7D visual programming software, audio-video virtual reality simulators and many more which can be used to train advanced surgical techniques. Surgeons from Philippine College of Surgeons formed “Committee on Surgical Training” in 1999 where they created a series of modules that were prepared keeping Internship and fresh post-graduation students in mind, proved to be very efficient in training the students in surgical aspects.

Present day advancements in surgical training

During past several years, medical education has stayed away from traditional method of apprenticeship. Most of the surgical skills were previously mastered initially with real patients but is now transferred in “vitro” or simulated venue. The regulations passed by the ACGME in 2003 have restricted the number of hour surgical trainees in the united states can work, requiring that new surgeons become proficient in a shortened period of time.

Simulation (using physical models, computer program or combination of two) provide the opportunity to achieve and evaluate skills through repeated practice within a safe and controlled environment. Even though medical education has been slow to embrace simulation for reasons of cost, complacency, and lack of rigorous determination of reliability and construct validity. Focused by the patient safety movement, the face validity of simulation education is overwhelming. Many recent articles in the ethics literature have condemned the use of sedated or dying patients for training in examinations or basic procedures, again highlighting the role for simulation-based training.

Professional and public concerns in surgical simulation has been initiated by almost identical situation with the airline industry with its desirable reputation for safety and its commitment to lifelong training. Actual patient-based learning is an important part of advanced surgical training but acquiring technical skills in a venue where patient safety is not at risk is now inevitable.

DISCUSSION

In the present context, particularly speaking with respect to Ayurveda students there is an enforced need to teach the students the actual applicability of Yogyasutriyam in the fields like Shalya tantra, Shalakya tantra, Prasooti tantra, Panchakarma etc. There is a lot of scope and need for applying the Principles mentioned in Yogyasutriyam with modern science Current simulation models, including cadaveric, animal, benchtop, virtual reality (VR) and robotic simulators are increasingly used in surgical training programs. Advances in telesurgery, three-dimensional (3D) printing, and the incorporation of patient-specific anatomy are paving the way for simulators to become integral components of medical training in the future.^[6] A work on historical windows of Sushruta's Skill reveals elaborate description of development of skills of ancient plastic surgery.^[7] advancements for improving hand skills and psychomotor surgical skills of the surgical residents.

CONCLUSION

Change is upon us and the opportunities are numerous to further improve the system of surgical training in the field of Ayurveda. Indian system of medicine is the base of all fields of medicine and principles of surgical practice as documented in Sushruta Samhita. Even now this fact is accepted worldwide by all the renowned scholars, even from the contemporary science. With backup of this vast knowledge, it is our responsibility to work for the upliftment of surgical practice in Ayurveda with respect to teaching as well as practicing as per the needs of present era.

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