



## A Glance at History of Human and Veterinary Surgery in Iran

Hassan Tajbakhsh \* DVM, PhD

*Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran.*

---

### Surgical Wards of Hospitals

There was a special ward for those patients requiring surgical operation in the ancient and important hospitals of Iran and the world of Islam. Surgeons, orthopedists, phlebotomists and others worked in these wards. From the 24 physicians Azdod al- Doleh of Deylamite employed to work in the Baghdad Hospital four were surgeons and one was orthopedist. There was no specific operating room in the old hospitals, but after the operation they paid attention to take the room clean and his bed above ground level, as well as various windows and at least away from bad odors. The water closets were usually outside the building; however, there were indoor W.C. for the patients recently operated or for other patients in winter. To avoid contamination limited people were allowed to visit the operating quarter. There were new garments for the patients and nurses tries to fortify the patients' spirits.

### Views of the Grand Surgeons

Rhazes considered special significance to surgical operations. He wrote a book on the way of using metal instruments in surgery and orthopedics. He has explained various surgeries such as rooting out trichiasis (additional hair in the eye); laryngotomy and prevention of suffocation. He has mentioned lithotomy and calicectomy, and has suggested catheter for urodynia. Calicectomy was performed by some other surgeons in the past but Avicenna opposes the idea and instead he suggests catheter: "Some physicians cut the dorsal part or flank of the patient on the occasion of calix of kidney, which is very dangerous and a wise man never does this. In case of bladderstone catheterization is recommended."

As we mentioned in previous parts, Albucasis the greatest surgeon of the world in the Middle Ages, has explained the majority of major surgeries in his Al- Tasrif. Jorjani in

---

#### \* Hassan Tajbakhsh

Distinguished Professor of Veterinary Surgery and History of Science. Department of Veterinary Microbiology, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran.  
E-mail: htaj@ut.ac.ir.

turn, has mentioned interesting points on various surgical operations including surgeries related to cancerous tumors and metastasis.

### **Some Wonders of Surgery in Iran**

Iranian surgeons were called Ostad (master) in the past and sometimes they performed astonishing surgical operations. We gave a few examples before. Mahmoud Vasifi (d. 1552) the author of *Badaye al- Vaqaya* (Interesting Events) says Master Sheikh Hassan the surgeon, sewed the bowls of one of the commanders severely injured by a dagger by jaws of ants and cured him. This should be taken as the first type of the absorbable surgical sutures. This book also writes about Master Zeyn al- Abedin the orthopedist who cured dislocated ilium of a woman without touching her. The story was this that he kept a cow thirsty for three days feeding it with dried straw. Then he put the woman on the cow and fastened her feet hard below the abdomen of the animal. Then he gave buckets of water to the animal. The cow's abdomen swelled as it drank water and pressed the ilium of woman and located it on the place.

Another story is on dressing with plaster cast, which should be considered the first report on using plaster of Paris years before the introduction of this technique in Europe: The bones of the feet of a hero had been smashed by a wood. Master Zeyn al-Abedin ordered a ditch be dug and he put the patient's feet in the ditch arranging the bones from below and pouring plaster grout in the ditch to the end.

In the 19th century despite introduction of the modern medicine in Iran, traditional surgeons were still working and their performances were even better than their European counterparts. Mahdiqoli Hedayat refers to gangrene of the foot of the then minister of industries. Dr. Tholozan had ordered dismemberment but Mirza Hassan the surgeon said he would cure him in 11 days. Tholozan cursed him. The surgeon started leeching and extracted the decayed blood and coated the wound by a special ointment and cured the patient in 11 days. Tholozan apologized him and awarded him 200 coins.

### **Methods of Treatment of Diseases**

Ancient Iranian veterinary medicine used the same methods and principles of medicine, applying medication, bleeding, cauterization and surgical operations. In the case of incurable diseases, sometimes they resorted to amulets and supplication.

**Medication:** The herbal, mineral and animal originated drugs were basically the same as those we referred to in our discussion on medicine.

**Cauterization:** Veterinary medicine used cauterization chiefly for the following: cancrroid; hands, leg and hooves fissure; foot rot, arthritis, different forms of lameness, chronic ulcers, chest pains, ataxia.

Lancing of the purulent abscesses was significantly important and *Nishtar-e Baytar* (veterinarian's lancet) had come to be a proverb.

**Cupping:** On bleeding medicine and cupping whatever we wrote previously on medicine is also true in the case of veterinary medicine.

## Applying Surgery in Iranian Veterinary Medicine

Unlike physicians, Iranian veterinary surgeons were interested in carrying out minor and major surgeries and had no fear of the probable complications. Some of them were skilled in their job. In the following lines we will refer to some of the surgical treatments. Treating Lameness and Hoof Tenderness: They treated lameness by massage, revulsive poultices, dry cupping, and operative surgery in some cases. They treated hoof's lesions by rubbering out and scraping damaged zone and application of caustic materials such as lime, then applying softening ointments such as sheep fat, sugar, etc., and in some cases by cauterization.

Osteopathia: Osteoma, osteoblastoma, osteoclasia and abnormal vertebra were treated by surgical operations such as ostectomy, vertebrectomy, application of slat, haemostasis and roller bandage.

Orthopedics and Dislocations: Bone-setting was a special art and the skillful bone-setters used their art in medicine and veterinary medicine equally. Fractures of femur, radius, ulna and kneecap were often taken incurable, but the fractures in other areas were treated by first setting the bone, then by dressing the broken area and applying rigid bandage by splints and leaf of various plants such as vine, myrtle, and walnut. They kept it bounded for forty days and avoided imposing pressure on the bands. If the broken area had injuries they would replace the dressing. They treated dislocations by massaging, rigid bandage and soft physical exercises. Metacarpal torsion was treated by massage and making the animal move in gaits.

Hydrarthrosis used to be treated by applying cold bathing, prescribing corrosive poultice, dry-cupping and deviation of blood flow from an area to another. They considered the incision of the lesion a dangerous practice and preferred cauterization.

Colitis: In cases of severe colic, suppositories and enemas containing onion juice, garlic or soap were employed. A piece of band was placed around the body at the neck and back, and pulled tight to evacuate intestinal gases, or a reed-pipe was placed in the rectum to allow a continuous flow of gases. When the urethra was obstructed and the bladder was full, this was massaged through the vagina or rectum until empty.

Various hernia such as abdominal hernia and inguinal hernia were important in surgery. In the case of bovine abdominal hernia if the intestine was perforated the sick animal was incurable but if it was not injured, they washed the intestine and returned it to abdomen and sutured the area.

Ascites: An incision was made in the floor of abdomen to release the accumulated fluid. They preferred sometimes lithotomy in the case of expensive animals. Rectal diverticulum was treated surgically, and in the case of vulvar rupture they prescribed surgery and artificial vagina.

Metritis and Infertility in Mares: When the uterus was inflamed and vaginal canal closed, pus and secretions were evacuated manually, then olive oil and suet were introduced, and woolen pad was inserted to absorb secretions. Mares infertile as a result of fibroma or other neoplasms were treated by surgical excision of the tumor, followed by insertion of a woolen pad impregnated with musk, camphor, pepper, and honey, to which a thread was attached so that it could be removed later. Veterinary surgeons were also adept at castration and various eye diseases were treated surgically.