



VETERINARY MEDICINE IN PRIMEVAL INDIA

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ABSTRACT

Animals were domesticated in India between 6000 and 4500 BC. Harappa, Mohenjodaro and certain other places demonstrate strong archaeological evidence about existence of an eminence civilization in around 2500 BC. Animal husbandry was well developed during the Rigvedic period (1500–1000 BC) and the cow (Kamdhenu) was acclaimed the 'best wealth' of society. Aryans believed to pay sufficient heed on protection of cows. Atharvaveda had interesting informations regarding cure of lot many animal diseases. Shalihotra, the first known veterinarian of the world, was an expert in horse husbandry and medicine and composed texts on Haya Ayurveda. Sage Palakapya believed to be an expert of elephants and composed Gaja Ayurveda. During Mahabharata period Nakula and Sahadeva, the two Pandava brothers were experts of horse and cattle husbandry, respectively. Lord Krishna was an expert caretaker and conservator of cow husbandry. The first known veterinary hospital of the world was established by great king Ashoka (300 BC). The Arthashastra (science of economics) written by Kautilya has lots of information concerning animals about grazing lands, rules of meat science, livestock products like skin and fur, and veterinary jurisprudence.

INTRODUCTION

There is ample evidence to suggest that animals were domesticated before the beginning of the written history. Ancient Indian literature in the form of the holy Vedas, Puranas, Brahmanas, epics, etc. is flooded with information on animal care, health management, and disease cure. Religion is at focal point in Indian culture and tradition and cows as well other animals have places like deity in India. Cows were and are being worship.

Beef eating in ancient India has been a controversial subject. In ancient India, cow was addressed as “*Gau- mata*” or mother cow. Ancient rulers (from 600 BC) used to inscribe pictures of cows on coins. Coins made up of copper, silver, lead, or gold were used as currency with inscription of cow released by King Anshu Verma, ruler of ancient republic of Lichavvi (Nepal). Inscriptions of standing right facing (rarely left facing) humped bulls are seen on the coins of punch-mark, Airan, Audumbar, Ayodhya, Kaushambi, Saatvahan, Ujjaini, etc. Animals have been endowed with enough importance in ancient Indian culture.

A. Cow

Cows were regarded as mother (“*Gau-mata*”) and referred to as *Aghanya*. Prayers were offered to Agni (God of Fire) to kill with his flame all those evil dwellers, who stole milk of cows. Voluminous treatises are also available on cows, e.g., ‘*Gau Ayurveda*’. During *Pauranik* period, cow (*Kamdhenu*) believed to emerge out of *Samudra manthan*, was considered so valuable that *devatas* fought with demons and acquired them. Cows were high milk-yielders and were milked thrice a day by women (*Duhitras*). They knew the animal feeding practices and fed them with dry hay and green fodder. The herb *arundhati* not only treated several disease conditions but also increased milk yield in cows. Prayers were offered to Aditi Deva to discover medicines for health improvement of humans and calves. It shows that Aditi was one of the researchers of medicine. Treatment of weak, infertile, and unproductive cows for making them productive was well described.

B. Buffalo

As described in *Aryurvedas*, Indian subcontinent is the richest habitat of buffaloes. In South Indian sculptures it has been mentioned that buffaloes were used for plowing lands after which they wallow in the pond to reduce tiredness. Buffalo keeping was a symbol of prosperity in Southern India. Reference of buffaloes in the form of a furious demon, Mahishasur and docile beast, the ride of death God Yamraj has been made in the prehistoric ancient Indian literature. Taming and domestication of buffalo has been mentioned during the epic era of Ramayana and Mahabharata and true domestication during the Indus Valley civilization.

C. Elephant medicine or Gaja Ayurveda

Palakapya during Rigvedic period (2000– 4000 BC) wrote Hastya Ayurveda or Gaja Ayurveda dealing with elephant medicine and dedicated to Lord Ganesha. Elephant medicine and surgery were divided into four parts by Palakapya, viz., *Maha Rogsthan* or major diseases, *Ksudra Rogasthan* or minor diseases, *Salyasthan* or surgery, and materia medica-

diet and hygiene. He classified various ailments of elephants into: *Adhyatmika* (physical) and *Agantuka* (accidental or incidental); physical classes of ailments were called *Manasa* (caused by mental diseases) and *Dosaja*. *Hastya Ayurveda* also mentions about anatomy, treatment of different diseases, training and also classification of elephants.

D. Equine medicine or Haya Ayurveda

The Aryans introduced horses for rapid transportation. Pack, riding, chariot, war, race, and even plowing horses were frequently mentioned in the Vedic age (1500–1000 BC). The Aryans took advantage of the trained horses to march into the fertile land of Iran and Mesopotamia. The Aryan chariot (*ratha*) is depicted at Sanchi. In the later Vedic period (1000–600 BC), Buddhist period (600 BC), and Mauryan period (400 BC), the use of horses was well documented. In the Mauryan age (322–232 BC), equine husbandry made tremendous progress and these were used for riding and for war. The royal horses were under the charge of a superintendent of horses (*Asva adhyakacha*), who used to register the breed, age, color, and place of origin. Detailed accounts of housing and feeding of horses were mentioned in *Arthashastra*. Veterinary doctors and horse trainers were assigned free endowment. In the Gupta dynasty (300–550 AD), horses were given more importance than elephants in Samudragupta's army because of their speed and easy maneuverability.

E. Goat

Goats and sheep were first domesticated near Iraq and United Arab Emirates 8700 years ago, much earlier than the advent of agriculture. People who belong to Chalcolithic age were found in the Indian states of Madhya Pradesh, Maharashtra, and Rajasthan and they reared goats and other animals. Goats were domesticated earlier, and served mankind for longer period for their milk and other products. During Pre-Harappan period, wild ancestors of goats were found in barren hills of Baluchistan and Western Sindh. Gaddi goats resembling the ancestral wild goats are still used for carrying goods in the higher Himalayan region of India.

F. Sheep

The sheep kept in India, Tibet, and other countries of East and South Asia were of western derivation and basically of Urial stock. In India, sheep keeping was practiced evidently from Pre-Harappan period through to Mauryan Age. The dominant form of sheep rearing still remained of nomadic nature. Domestication of sheep, besides ensuring a permanent meat supply, also improved the supply of skin, hair (wool), fat, and bones. Although these animal by-products are available from other sources, production of wool, however, remained a monopoly of the sheep.

G. Fowl

According to Somvanshi (2006), in the seals of the Indus Valley, two Sonarati red cocks with fighting gesture were identified; however, Srivastva (2002) considered them as red jungle fowl (Randhawa, 1980). At the same place, small pieces of earthen hen toys were recovered. One of these birds, which were adjoining to feed pot, was considered as hen. This indicates that captive breeding of birds was practiced during those days. These facts were confirmed by study of bones by Sewell and Guha (1931). Domestic fowl was also found in Harrappa. From this place, two earthen birds (one male and the other female) were recovered. From Kanhudaro also, small-sized figures of birds belonging to the family of domestic fowl were recovered. Possibly these were the images of quails. It is accepted that Indus Valley people kept birds for games and breeding for meat, possibly started afterwards. When Aryans invaded India around 2500 BC, they appreciated cocks. Cock is mentioned in Atharvaveda and Yajurveda, but not in Rigveda. During 1000 BC, eating hen meat was prohibited, possibly for religious reasons. The study of Northwest Indian coins indicates that cocks were favored. During 310 BC, Softitus, a Prince of Punjab presented a few silver coins to Alexander, which had legends of cocks along with spur. Satyamitra (100–200 AD) engraved fowl on coins with palm leaves.

HISTORICAL ASPECTS

Evidences of animals' domestication and their role as family as well as help were well documented since time immemorial. The Vedic Society in India was dominated by the 'cow culture' and Vedic people adored the cow and regarded it as the source of their good fortune, happiness, and good health (Rigveda, 6.28.1, 6). It is believed that the religious priests, who had the responsibility of maintaining cattle, were the first animal healers or veterinarians. A number of Vedic hymns indicate medicinal values of the herbs and it is likely that these priests were also apt to it and used their medical knowledge to keep the sacred cattle free from ailments. The Atharvaveda mentions about healing herbs and drugs.

1. Animal husbandry in Harappan culture

The famous Indus Valley civilization was better known for highly developed culture and organized society. People of Indus Valley civilization were familiar with dogs, bulls, sheep, goats, buffaloes, horses, and elephants. They were also aware of a number of wild-game and animal products, such as milk, curd, ghee, and meat. Fish was their main animal food. These people were fond of mutton, beef, chicken, and meat of tortoise. Seals recovered from Indus valley provided knowledge of bulls, buffaloes, goats, elephants, ibex, and many other animals. The script on these seals has not been fully deciphered so far. Excavations of

Harappa in Montgomeri district, Punjab and Mohenjo-daro in Larkana district, Sindh in 1920–22 provided valuable archaeological evidence of a well developed civilization, which was 5000 to 6000 years old

2. Vedic age

In Rigveda, animals were considered as wealth. Aryans maintained their cattle on pastures, which were near to their dwellings. They cut the jungles and grazed cattle there. The cows were milked thrice a day. Castration of males was practiced and oxen were used for farm transport. It appears that Aryans preferred cows. The cow has been defined as *aghanya*, i.e., not to be killed, indicating the high sanctity of the cow in the Vedic period. In Rigveda, barley, sugarcane, and leftovers of sesame after extraction of oil were used for feeding of animals. Cow milk provided special energy, strength, and intelligence. Cow dung and urine nourished agriculture farming. Bullock power helped in development of techniques in agriculture like carrying draft, transportation, and cottage industry. Skin from dead animals supported the leather industry and handicrafts. Therefore, cow husbandry was always core-point in the Indian lifestyle and economy during the Vedic period.

3. Epic period

Ramayana is the oldest literature of Sanskrit, although no written history is available of that period. In the epic Mahabharata, references have been made too many domestic animals including cattle, sheep, goats, dogs, elephants, and horses and their uses. Cow dung was used as manure. The treatment of various ailments using medicinal herbs and surgical procedures are described at length. Various uses of oil as preservative and treatment are mentioned. Surgical procedures like caesarean section, hysterectomy, etc. were known to be performed by trained *vaidhyas* or physicians. Fruit juices, flower extracts, and wines made from fruits were said to have great medicinal properties. Medicinal herbs like *arjuna* (*Terminalia arjuna*), *kutaja* (*Holarrhena antidysenterica*), *kadamba* (*Anthocephalus cadamba*), *sarja* (*Vateria indica*), neem (*Azadirachta indica*), *ashoka* (*Saraca asoca*), *asana* (*Pterocarpus marsupium*), etc. were used widely to cure ailments of men and animals.

4. Mauryan age

The Mauryan age proceeded the period of Buddha and Mahavir, who preached non-violence towards animals. The earliest Buddhist text “*Suttanipata*” describes cattle as a giver of food, beauty, and happiness (*annada*, *vannada*, and *sukhada*) and therefore deserves to be protected. According to Kautilya’s Arthashastra, cow was a worshiped animal. It was one of the first duties of the King to worship the cow with her calf and bull. The killing of cow was a deadly sin. Buffalo also became a recognized dairy animal by this period. Difference in the fat content in buffalo and cow milk was well known. Milk fat was usually used as *ghee* or

butter oil. Horses during this period were used to yoke different kinds of chariots like festival chariots, battle chariots, and traveling chariots. In the stables, different kinds of horses were kept separately. Horses were regularly trained for warfare. There were horses of many breeds. Arthashastra has graded them as best, middle, and ordinary quality. Thoroughbred horses were recommended parched rice, drippings, minced meat, red rice-powder, and grasses. There were about 6000 elephants with Nandas and 9000 with Chandragupta Maurya.

5. Ashoka period

Ashoka, the grandson of Chandragupta, who turned to Buddhism after Kalinga war, gave veterinary science a new turn in India. It is described that the first veterinary hospital existed in Ashoka's regime (Schwabe, 1978). The 'Baniyan Hospital' of Suratis is believed to be one of them, which consisted of a large piece of land enclosed by high walls. Provision for keeping indoor patients was made inside to accommodate animals. Interestingly, the present-day Veterinary Council of India adopted its insignia, the sculpture of a bull and a part of the text of the stone edict from the period of Emperor Ashoka (around 300 BC), which projected the veterinary profession as its "best heritage" (Singh, 2002a).

6. Cow in Mathura and Krishna's era

Lord Krishna belonged to the period 900–1000 BC. Cow husbandry was well developed in Mathura. Cow milk, curd, butter, whey, etc. were produced in sufficient quantities, in and around Mathura. People of Brij region paid tax to their king Kansa in the form of milk and milk products. Krishna started worship of cows on the day after *Deepawali* festival in place of Lord Indra. Since then this day is celebrated as *Gopastami* and cows are worshiped. During Krishna's era, a cow named Surabhi was famous. A lot of information about cow husbandry is available in Shrimad Bhagwat, poetry of Suradas and paintings of that era.

CURE OF ANIMAL DISEASES

The treatment of animal diseases using Ayurvedic medicine has been mentioned in Agni Purana, Atri-Samhita, Matsya Purana and many other texts. The treatment of a variety of ailments: infection of horns, ears, tooth, throat, heart, and navel, rheumatism, haemorrhagic enteritis, dysentery, digestive ailments, cold, parasitic/verminous diseases, stomach worms, rabies, abscess, anaemia, wounds, medicines to increase milk production, epistaxis, retention of urine, urinary colic, constipation, lacrimation, arthritis, rhinitis, sprain, haematuria, and skin infection has been given in detail (Somvanshi, 1993).

a. Animal surgery

Almost all aspects of surgery were dealt in ancient veterinary treatises. Besides, preliminary surgical methods, dressing and bandaging of wounds, symptoms to predict

prognosis of the surgical cases, etc were well documented. Methods of suturing and plastering and duties of physicians, surgeons, and nurses have been dealt in detail. General principles of surgery described include preparatory measures and principal measures (including surgery and post-operative measures). Surgical treatment of animal disease was very much developed during Vedic period. Various techniques of surgical operations along with instruments have been dealt in detail in Shalihotra's and Palakapya's works. Treatment of sinus fistula, burns and scalds, snakebite, fractures, ailments of ligaments/tendons, dystocia, removal of dead foetus, extraction of teeth and fractures were routinely done during Vedic period (Singh, 2002b).

b. Veterinary medicine

Atharvaveda is a repository of traditional medicine including prescriptions for treatment of animal diseases. Scriptures such as Skanda Purana, Devi Purana, Matsya Purana, Agni Purana, Garuda Purana, Linga Purana, and books written by Charaka, Susruta, Palakapya (1000 BC), and Shalihotra (2350 BC) documented treatment of animal diseases using medicinal plants. Vedic texts also describe divine healing powers. Yajurveda cites importance of growth and development of medicinal plants and Atharvaveda mentions about the value of medicines in curing the diseases. Shalihotra undoubtedly appears to be the first veterinarian of pre-historic times. The ancient Indians were so apt with the knowledge of herbals, even Alexander acquired some of the skills used by Indians, particularly for treatment of snakebite.

CONCLUSIONS

Indus Valley civilization is one of the foremost contributors in the history of development of veterinary and animal science. In India, there was no real gap between animals and men development. We worship cow. Cow keeping and cow protection were the stages through which the prosperity of society has occurred. Beef eating in ancient India has been a controversial subject. Due to availability of natural facilities of breeding, feeding, and grazing, cattle flourished in the ancient times. Cow prosperity started declining with increasing human population and socioeconomic conflict. There were physicians who specialized only in the care of animals or in one class of animals only; the greatest of them was Shalihotra, first known veterinarian of the world and the father of Indian veterinary sciences. The treatment of animal diseases in ancient India was well developed and carried out with great care and precision by well-trained personnel.

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