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HISTORY OF VETERINARY MEDICINE IN INDIA

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- Domestication of dogs, buffaloes, elephants, and fowls occurred in India between 6000 and 4500 BC. Strong archaeological evidence is available for existence of an advanced civilization in Mohenjo-daro, Harappa (now in Pakistan) and the people of these civilizations had both humped and humpless cows, buffaloes, elephants, goats, fowl, etc.

- Cattle husbandry was well developed during the Rigvedic period (1500–1000 BC) and the cow (Kamdhenu) was adored and considered the ‘best wealth’ of mankind.

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- Atharvaveda provides interesting information about ailments of animals, herbal medicines, and cure of diseases.
- Shalihotra, the first known veterinarian of the world, was an expert in horse husbandry and medicine and composed a text Haya Ayurveda.
- Sage Palakapya was an expert dealing with elephants and composed a text Gaja Ayurveda.
- During Mahabharata period (1000 BC), Nakula and Sahadeva, the two Pandava brothers were experts of horse and cattle husbandry, respectively.
- Buddha was a great protector of all kinds of animals and birds (including game) in ancient India as he preached lessons of non-violence to masses.

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- Graeco-Romans imported livestock from India after invasion by Alexander. These descriptions are available in Indika, a book authored by Megasthenes, the ambassador of Seleucus Nikator, king of Mecedonia in the court of Chandragupta Maurya.

- The great king Ashoka (300 BC) erected the first known veterinary hospitals of the world. He arranged cultivation of herbal medicines for men and animals in his empire and adjoining kingdoms.

- In a famous text, the Arthashastra lot of information is available about different animal (elephant, horse, and cow) departments, grazing lands, rules of meat science, livestock products like skin and fur, and veterinary jurisprudence. This knowledge flourished during the great Hindu kings of the Gupta period up to 800 AD before Islamic followers invaded India.

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Paintings of cave men and animals

- Being a member of the Mammalia class, Primate order, and Hominoidea superfamily, man also may be considered as an animal, but with a difference of wisdom and culture.

- In the earliest phases, natural images of animals are found, whereas the depiction of human figures is very rare. In a hunting-foraging economy, animals were valued for their protein-rich meat, skin, bone, horn, and antlers.

- During the Proto-historic time, with the beginning of a sedentary lifestyle, animals were reared for their products, transportation, and farming. It was only during the Early Historic time that man enslaved animals and misused them even in the battlefield. All these stages of man-animal relationship from the Pre-historic time to Early Historic time are depicted in the art of the cave dwellers.

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Animal Husbandry in Harappan culture

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

- 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.

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Vedic age

- A lot of information is available on keeping of animals in the Vedic Age in the Rigveda, which is the oldest holy book of Aryans. In Rigveda, animals were considered as wealth.

- Castration of males was practiced and oxen were used for farm transport. It appears that Aryans preferred cows. Buffalo was not a commonly used animal by them. They kept dogs for guarding houses and for hunting of boars.

- Sheep were kept mostly for wool and goats for milk. Oxen were used for plowing and irrigation also. 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.

- Skin from dead animals supported the leather industry and handicrafts. Cow husbandry was always core-point in the Indian lifestyle and economy during the Vedic period.

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Animal Ayurveda during Vedic period

- 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. The Ayurveda (the science of life) deals with the knowledge of medicine possessed by the Vedic saints.

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Epic period

- In the epic Mahabharata, references have been made to many domestic animals including cattle, sheep, goats, dogs, elephants, and horses and their uses. Cow dung was used as manure.

- Ramayana is the oldest literature of Sanskrit, although no written history is available of that period. 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.

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Cow husbandry in Mathura during Krishna's era

- One of the beloved Hindu deities, Lord Krishna belonged to the period 900–1000 BC. Cow husbandry was well developed in Mathrua.
- 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.

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Mauryan age

- Animal husbandry made great progress in the Mauryan age (322–232 BC). The Mauryan age preceded 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. In the Arthashastra, goat has been described as an important milch animal like cows and buffaloes.
- It was the duty of the King to identify and provide enough land for pastures near each village. The Gopa (village accountant) was supposed to keep the details of the pasturelands.

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- In Arthashastra, there is separate mention of rations for cow, buffalo, mule, camel, etc.

- Milking was done either once in the morning during summer and spring or twice, i.e., in the morning and evening during rainy season, autumn, and first part of winter. Difference in the fat content in buffalo and cow milk was well known. Milk fat was usually used as ghee or butter oil.

- There was capital punishment for stealing or hurting a cow. When a person caused a bull to fight with another bull, he was fined. If any person injured a bull, he was heavily fined.

- Veterinary services were essential services during the Mauryan period. In this period, asses were used to carry loads. Horses 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..

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- Arthashastra has graded them as best, middle, and ordinary quality. Thoroughbred horses were recommended parched rice, drippings, minced meat, red rice-powder, and grasses.

- Mules have also been mentioned in Arthashastra, indicating their presence in the Mauryan period.

- Elephants were very important animals in the Mauryan period. They were used in warfare, as they were very useful for storming fortresses; breaking upon massive doors and to move even in dense forests and marshy lands.

- There were about 6000 elephants with Nandas and 9000 with Chandragupta Maurya. Elephants for war and riding were housed inside the fort. Whoever killed an elephant was sentenced to death. Tusks of an elephant were considered precious

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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.
- 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.

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Animal surgery

- From primitive therapeutics, the early man turned to primitive surgery. “Susruta Samhita” is the earliest known work dealing with surgery.

- According to evidence with Indian scholars, Dhanvantari’s direct disciple Susruta belonged to 600 BC. He made great improvement in the general techniques of surgery and performed many new and major operations.

- Susruta Samhita testifies to the great scientific knowledge of the ancient Indian surgeons. It was translated into Arabic before the end of 800 AD and was called ‘Kitab-Show-Shoon-a-Hindi’ or ‘Kitab-i-Susrud’;

- Cellars translated into Latin and Hassler into German. The students were taught surgical techniques first on dummies and later on dead bodies. Before Susruta’s time, knowledge and practice of surgery in India was more or less of the same standard as in contemporary civilizations like Egypt, Mesopotamia, and Greece.

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- Surgical treatment of animal disease was very much developed during Vedic period.
- Skilful surgeons treated animals with precision and great perfection.
- 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.

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Cure of animal diseases

- Animals received good medical care in ancient India. Physicians treating human beings were also trained in the care of animals.

- Indian medical treatises like Charaka Samhita, Susruta Samhita, and Harita Samhita contain chapters or references about care of diseased as well as healthy animals.

- There were, however, 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 using Ayurvedic medicine has been mentioned in Agni Purana, Atri-Samhita, Matsya Purana and many other texts.

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Ethno-veterinary medicine:

- In India, ethno-veterinary practices were in vogue since time immemorial. In ancient India, the Vedic literature, particularly 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.

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Combating parasitic diseases

- In India, knowledge about parasites, their transmission and control was documented in Charaka Samhita, in the form of citations as teachings from the Great Guru or teacher, Lord Atreya to his disciple Agnivesa. Not much information is available on parasitic diseases, their characteristics, therapy, etc. prevalent in ancient India.

Food Safety

- During Rigveda, cow slaughter was banned. However, horseflesh was eaten occasionally at the time of religious sacrifice called Ashvamegha yagna.
- During Ashoka period, non-violence or ahimsa was a policy of the state but meat eating was not banned.
- Slaughterhouse was located at a distant place towards south of the palace and regulated by a superintendent.
- Pregnant or milking goat, sheep, pig, and piglets up to 6 months of age were banned from slaughter.
- Butchers selling meat derived from sick or dead animals and adulterated or spoiled meat were severely punished. This shows that meat science had a sound basis in ancient India.

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Elephant Medicine or Gaja Ayurveda

- Palakapya, an ultimate authority on elephant medicine belonged to the Rigvedic period 2000–4000 BC.
- The Gautam Samhita, the Ashva Ayurveda, and Hastya Ayurveda are the only treatises on animal science till now.
- Palakapya 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.
- Hastya Ayurveda also mentions about anatomy of elephant, treatment of different kinds of diseases, training of elephant, and also classification of elephants on the basis of a number of characteristics.

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Equine Medicine or Haya Ayurveda

- Amongst 18 gems recovered in Samudramanthan by gods and demons, the horse named Ucchasrava was possibly the first known horse of puranik (ancient) India.

- he 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).

- 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.
- Veterinary doctors and horse trainers were assigned free endowment.

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Thank You

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