

HISTORICAL BACKGROUND AND ANALYSIS OF SCIENTIFIC
CONTENT OF ANCIENT INDIAN LITERATURE ON
PRACTICES FOR THE TREATMENT OF DISEASES
OF DOMESTIC ANIMALS

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Ancient Indian literature has been a source of invaluable knowledge of veterinary art in antiquity. *Vedas* were the first manuscripts which contained treatises on human and animal medicine. A large number of authors thereafter contributed to the literature on veterinary medicine. Even the diseases which have been discovered in recent past have their references in literature which is thousands of years old.

According to ancient authors every object of the world is made up of five primordial elements (*pañcabhuta*) and three subtle forces (*humours*). A state of disease is believed to be due to an adverse correlation of these elements. The drugs in the Indian *Materia Medica* have also been classified according to their influence on each of these three humours. A large number of indigenous drugs, references of which are available in literature are being used in villages since modern treatments have proved to be costly and impracticable in village conditions. Though these drugs are being used by villagers empirically and this has resulted in their unscientific prescription, their value is still recognised. There is no doubt that many of these drugs were known and were being used in some form or the other in ancient times long before they were introduced in Western medicine. As such there is a need to reinvestigate, confirm, and separate useful indigenous drugs from useless ones.

INTRODUCTION

Veterinary Medicine is as old as recorded history and Veterinary practices of some sort are undoubtedly as old as civilization itself. Ancient India has provided the most concrete identification of the veterinary art in antiquity. Hindu mythology attributed the origin of medicine to Brahmā as the Egyptian did to Imhotep and the Greek to Apollo. In the Vedic period (c. 1800-1200 B.C.) Brahmā via human mediators created the *Veda* as an ethical guide to the world. Some of the *Vedas* contain the first treatises on the medicine of man and beasts.

Our country can boast of a very ancient civilization in which all the sciences had developed to a very high degree of perfection. There are many old, original,

and authentic authors on Indian Veterinary science and copious is the information contained in their writings. Among such authors stand prominent the names of Śālihotra, Pālakāpya, Rājeputra, Vaiśāmpayana, Vyāsa, Nārada, Mṛgacarma, Dinapathi, Bṛhaspati, Śukra, Vīrasena, Jayadattasurī, Nakula, Sahadeva, Gana Malladeva, Paṇḍita, Simhadatta, Nala, Jayadeva, Garga, Ātreya, Parāśara, Manu, Vatsya, King Indusena, King Bhoja, Sāraṅgadhāra, Someśvara, Kauṭilya, Vadda, Bāsavamantrī, Gīrvana, Yuddhevikrama, Simmara Bhūpati, Viśvanthā, Vājpeyi, Dīpaṅkara, and Rudradeva, so far known. Each one of these authors contributed much valuable information on veterinary medicine. Some of these works are available in print while many are available only in old manuscripts preserved in some of the long standing libraries in India.

That specialization was characteristic of ancient India is evident from the fact that the author of *Veda* on elephants is identified as Pālakāpya and that on horses as Śālihotra. That Śālihotra became the greatest of early veterinarian is adduced from the fact that after his time, veterinarians were identified as Śālihotrīya. The word Śālutrī used in Northern India to denote veterinary doctors is only a derivative of the word Śālihotrīya. Nakula, one of the *Pāṇḍavas*, is said to have written a book on horses called *Aśvacikitsā*. While his brother, Sahadeva, who was an authority on cattle and their diseases, is understood to have written a book called *Gobāstra*.

In ancient India, cattle diseases were classified and entities recognizable as rinderpest, anthrax, dysentery, and piroplasmiasis, among others were described. (When these plagues struck Britain and the continent of Europe in the 18th century, they went unrecognized until the havoc wrought forced a reform of Veterinary Medicine in those countries.) In Kerala and Assam, there were valuable works on the diseases of elephant and their treatment, both curative and preventive. The instructions contained in those works were rigidly followed and as a result they kept their herds fit and well. But unfortunately, now-a-days, they are sealed books to the followers of Western system of Medicine. Tuberculosis is reported to have been discovered in elephants in the early 20th century but the two forms, a wasting, and the other, a pulmonary type, are described in a Hindu text over 2000 years old.

The ancients called medical science *Āyurveda*, the science of life, and used the same term to denote Veterinary Science. To a real practitioner of Indian Medicine, the conception of any living being is two fold, *viz.*, the concrete or the gross and the abstract or subtle. On the concrete side, every object of this world is made up of the five primordial elements, *viz.*, earth, (*kṣiti*), water (*āpa*), fire (*teja*), air (*marut*), and space (*byoma*) and on the abstract side, every object is being controlled by three subtle forces or humours, *viz.*, wind (*vāta*), bile (*pitta*) and phlegm (*kapha*). The names earth, water, fire, air and space are not the things that we see and feel around us, but represent only matter in its different stages of density. Just as the modern scientists have recognised matter in its three different stages of density, *viz.*, solids,

liquids, and gases, so also the ancient Indians had recognized matter in its five stages of density and designated them as above. There is a collective name for the five stages of matter called *Pañcabhuta* or the five elements. The proportion in which these elements exist in one subject is not similar to that in any other.

Coming now to the three humours, wind, bile, and phlegm, the term wind used in the above is not the air or atmosphere that we breathe, so also the bile is not the liver secretion or the contents of the gall bladder. The phlegm also is not coughed out material of the body. Each one of these represents a certain specific but subtle force of its own. What is called the state of health, is supposed to be brought about by the proper co-ordination in suitable proportion of the five concrete elements, influenced by a correspondingly well balanced correlation of the three humours. Correlations of these humours are two fold, *viz.*, balanced or healthy and adverse or vitiated. In the case of adverse correlation, it may be either excessive correlation or absence of correlation on the part of any of these humours, either singly or combined. Such an adverse correlation manifests itself in the form of a varying mal-co-ordination of the five concrete elements which, in its turn, brings about certain visible changes in tissues and this is known as the state of disease. It is because that every disease or ailment takes its origin from the adverse or faulty correlation of any of these three humours either singly or jointly, there is a common designation for these humours, *viz.*, the *Tridoṣa* meaning the "three faults". In the absence of a suitable expression in Western Medicine to represent the significance of the three humouric forces, it will be nearer the truth if the word *Tridoṣa* is understood to be a common name given to all the functions of tissues, *viz.*, substantive, correlative and generative. Thus the secret of correct diagnosis of a disease lies in finding out the exact degree of deviation from the natural proportion of the *Tridoṣa* or the three humouric forces, which brings about the disproportion of the five primordial elementary constituents of the tissues and thus manifests itself in the form of disease.

As in the case of diseases, so also in the case of remedial agents, the Indian *Materia Medica* has been classified into drugs that exert specific influence on each of the three humours individually and in their various combinations. Hence the secret of treating a disease resolves itself into choosing a remedy which, if utilized, will tend to bring back the natural proportion of the humouric forces, which in its turn will set right the disproportionate elements of the tissues and their disorganised functions and thus restore the state of health.

SECRETS OF ŚĀLIHOTRA'S AŚVAŚĀSTRA

The secrets which Śālihotra Muni discloses in his dialogues, especially those about the symptoms appearing in the eye are very profound indeed, and deserve the closest attention even at the present day. They point to the depth and extent

attained by the Veterinary Science in this country in the past ages. A few of his observations on symptoms in eyes of horses are given below.

“If the physician finds the eyes dry and glassy, the horse is affected by *vāta* (one of the three vital forces) and when the eyes are seen yellow and pink the animal is affected by *pitta* and when the eyes are white and watery, he is affected by *kapha* and if the horse is suffering from fever the eyes are dark yellow”.

“The horse who shows a number of petechiae on the conjunctiva, is to die within six months. In the same way when a healthy horse’s eye shows bluish tint and the discharge smells like honey, the animal is sure to die within two months. When the blood is diseased by *pitta*, the lachrymation is of blood tint and the conjunctiva is pale, it is certain that the animal is to die immediately”.

The great Muni Śālihotra has also given the principles of judging the age of a horse by observing lower incisors.

INDIGENOUS DRUGS IN THE TREATMENT OF LIVESTOCK

The term “Indigenous drugs” is used here in its widest sense and includes all drugs which are either cultivated or manufactured in India. There are more than 2000 remedies of vegetable origin mentioned in ancient literature. Plants affecting milk yield in milching stock as well as the health and strength of farm animals have been mentioned. It is recognized that some of the horse dealers from generations possess recipes of certain *kuṣṭas* and *mabālās* which are claimed to have specific action against various diseases. They know of certain arsenic preparations for improving debilitated conditions and promoting shining appearance to the coat of the animals. Some of them prescribe medicines to dissolve splints and cure spasm in horses. Similarly, they can make *majoons* and *khāmirās* which are fermented medicines, and such biochemical preparations are considered to be specific in their action for certain diseases. There is thus a valuable measure of information which can be explored by going deep into ancient veterinary literature.

Tympanitis is a common affection of cattle. Western Veterinary Medicine requires large doses of drugs like nuxvomica, asafoetida, ammonium carbonate, magnesium sulphate, etc. to treat it. In village conditions this treatment becomes useless both because of its cost and because of the difficulty of having it dispensed. An ordinary villager has his own remedy for tympanitis. A couple of rhizomes of ginger, a few seeds of pepper, a handful of salt, a little asafoetida and a few shavings of the bark of the drum stick tree, are all well pounded and the juice extracted. The juice is then diluted in a bottle of warm water to which at times a little country liquor is added, if available, and the liquid is poured down the throat of the animal. The point here to be emphasized is that the prescription with the

local drugs is so easy to procure, most of them from one's own household, while the cost too, is a trifle.

Another very common bazaar drug that was widely used in the treatment of livestock is *neem oil* (oil of *Margosa indica*). The bitter property it contains and its characteristic smell make it a good and cheap wound dressing by keeping away flies. But to *neem* are attributed incredible curative properties, and so it is used for any and every ailment of animals. Be it a fracture or a dislocation, fever or a difficult parturition—one can be certain that neem oil will be used in some form or the other.

In many parts of India where it grows, the *Bael* fruit is widely used to check the diarrhoea that accompanies rinderpest. It acts most effectively. It is cheap and easily obtained. There are several other simple remedies with reputed curative properties like *bran* in the treatment of *brittle feet*, the infusions of certain pods and herbs as anthelmintics and tonics, fruits as galactagogues, and so on.

Crude vegetable purgatives are often as effective as their finished products *e.g.* aloes, as a purgative for equines, if not a mare, is as effective as its crystalline active principle, aloin. The powdered arecanut as a purgative and vermifuge for dogs is just as effective as its alkaloid arecoline, if given in an adequate dose. The total alkaloids of ipecacuanha may even be better than its chief alkaloid emetine in canines as emetic, expectorant, and in the treatment of dysentery and intestinal form of distemper. Crude preparations from the bark of *Hollarrhena antidysenterica* may be equally beneficial as the purified *conessine*, in cattle dysentery. There will be an immense economic benefit if the substitutes already known are put into practice.

But one thing must be borne in mind. While the veterinarian chooses the drugs for his prescription in a scientific way knowing how much of each drug is required and how each is going to act on animal system, the villagers chooses his empirically. No two of these "*amateur Vets*" would probably agree in regard to the quantities required. This is due to the lack of scientific knowledge and a proper standard by which to measure the quantity needed; the result is that while curing one disease, the cattle doctor or villager often lays the foundation of another by the indiscriminate use of drugs.

In Indian Medicine *Kuri Mooti Ka* is considered to be an antidote for snake poisoning. Different physicians interpret different plants as *Kuri Mooti Ka*. It was found from old records preserved secretly that the *Hariali* grass is *Kuri Mooti Ka* and nothing else. It was subsequently tried in human beings with great success. The grass is crushed and ground well and given internally—about 2 or 3 ounces in weight. A *cātni* or paste is also made out of the grass and applied over the region of the heart as a cardiac stimulant. The rarity of cases of snake poisoning

amongst horses and cattle is probably due to their grazing on *Hariali* grass now and then. This grass was tried on two goats suspected of snake poisoning with great success.

Keeping the above discussion in view there is no doubt that among the large number of drugs used by the indigenous practitioners during the past several centuries there may be many that deserve the reputation they have earned as *cures*. Investigation has shown that many of our pharmacological drugs were known and were used in some form or the other, long before they were introduced in Western medicine. At the same time there may be other drugs of little or no therapeutic value that were in use simply because they were in old literature. As such the active and useful drugs shall have to be separated from those which are worthless or inactive. The economic condition of the farmers in India is so poor that they cannot afford to use the expensive medicines of the Western system imported from outside.

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