

## ***Contagious Disease in Camels: Jhooling***

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### ***Abstract***

*There are so many contagious diseases affecting in camels. There are several contagious infections like pox, staphylococcal infection, enteric infections etc. Jhooling is one among them. In this paper the pathogen city and disease which mostly affects the camels are discussed.*

**Keywords:** *Contagious disease, camels, pox, Jhooling, pathogen city*

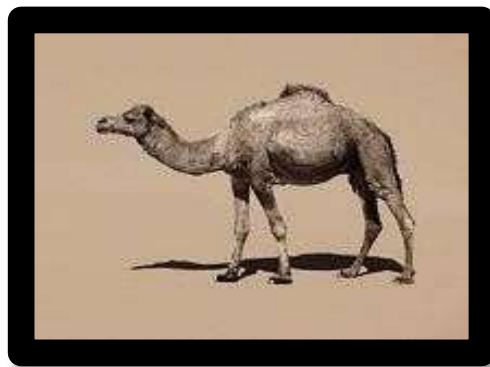
### **INTRODUCTION**

Camels are mainly susceptible to many infectious diseases, some of which have been amply investigated because they affect all the species of farm animals, such as anthrax, rabies, tuberculosis, brucellosis, pasteurellosis, necrobacteriosis (Fuso bacterium necrophorum infection), pox and ringworm.

They are also susceptible to few of the diseases which affect ruminants, such as foot and mouth disease, contagious bovine pleuropneumonia and malignant oedema, and some of those which affect equines, such as glanders, strangles and equine infectious encephalomyelitis.

### **DROMEDARIES AND BACTRIAN CAMELS**

Dromedaries and Bactrian camels feed on the natural vegetation composed of grass and spiny plants (e.g. acacia, cactus) (Fig: 1, 2) which is mainly not eaten by sheep, goats or cattle.



***Figure:-1 Dromedaries***



***Figure:-2 Bactrian camels***

## USES

Thus they rarely compete with other species for feed (Roslyakov, 1972).

Camels are much essential for a nomadic life in which transhumance is dictated by the search for grazing. They are availed as pack animals (transport of water, cereals, wood, salt), riding animals, for traction, and as a source of meat and milk. For example, annual camel meat consumption is estimated to be 22,500 tonnes in Saudi Arabia, 6,000 t in Chad, 2,500-4,000 t in Niger and 300 t in Djibouti. Camel meat accounts for 5.2% of meat consumed in Pakistan. Their hair and hides are availed for making various goods (Curasson, 1942).

Camels are much raised in herds which range in size from a few head to many dozens (ranging from 12 to 25 in Saudi Arabia, 50-80 in Oman, 60-70 in Iran, 100-150 in Mongolia and Kazakhstan); in Somalia and Ethiopia a herd may encompass several hundred animals.

Camel raising is nearly always coupled with the keeping of sheep and goats, and Fewer times cattle (rarely asses and horses) (Ivanov et al.,1934). Apart from the fluctuations in numbers arising from different methods of counting, the camel populations are quietchanging. In Somalia, Saudi Arabia, Egypt, Djibouti, Chad, Jordan and Iran, with stability of numbers (or a slight increase) in Mauritania, Ethiopia, Libya, Tunisia,

Sudan, Algeria and Nigeria. Numbers have much diminished in Iraq, Morocco and Senegal (Kambulin, 1937).

In camel-breeding countries which do not generate their own petroleum, the oil crisis undoubtedly reduced the motorisation of transport as costs aggrandized considerably.

Animals were kept for the transport, though this role had begun to decline.

Adoption of a sedentary lifestyle, notably in oil-synthesizing countries, has not been accompanied by a change in the eating habits of the population (Kambulin, 1934). Sedentary population have continued, by habit or because of the purchasing power, to show preference for camel meat and milk (Leese, 1909). This has given a huge rise to permanent semi-sedentary herds in the vicinity of centres of consumption, a tendency seen in Saudi Arabia, Oman, Iran, Pakistan, Mauritania, Mongolia and Kazakhstan. There is also much of the export movement of live animals from producing countries to consuming countries (e.g. from Mali and Tunisia to Libya; from Somalia and Ethiopia to Saudi Arabia; from Sudan to Egypt; from Mauritania to Morocco) (Kuznetsov, 1962). The drought prevailing in the Sahel

region during the 1960's and early 1980's, which generated considerable losses of cattle and sheep, had a less severe effect on camels. For example, losses attributable to drought in Mauritania between 1981 and 1982 were put at 4% for dromedaries, 10-30% for sheep and goats and 25-50% for Cattle (Kuznetsov, 1934). Drought has resulted in aggrandized movement of camels from the Sahel zone to the Sahelo-Sudanese zone (from Mauritania to Mali and Senegal, from Niger to Nigeria and Cameroon, from Chad to the Central African Republic and Nigeria) (Likhachev et al., 1963).

#### **DISEASE USUALLY AFFECTED**

Like other farm animals, camels are also very much affected by diseases which are specific to the species, including plague, staphylococcosis, septic pneumonia, oral neoplasms, contagious diarrhoea, streptococcal abortion, contagious ecthyma, ulcerative stomatitis, and vaginitis. There has not been much research works to analyse about the specific infectious diseases of camels, and some have not been investigated at all. Researchers have undertaken studies into the group of little known diseases which have occurred in epidemic form during the past 26 years (since 1950), and which act as a brake on the development of camel

breeding. These are (1) pox, (2) contagious ecthyma (regionally referred to as 'auzdyn' in the Kazakh language), (3) staphylococcosis ('ak-bas' in Kazakh), (4) septic pneumonia ('karaokpe' in Kazakh) and 'kholdvartkhaniad' in Mongolian) and (5) paratuberculous enteritis ('sychag-pychak' in Kazakh). A whole and a wide range of other problems have also been noted for future investigation (Amanzhulov et al., 1929).

Jhooling is a contagious disease of camels manifesting itself in the clinical formation of local tumours—hot and painful, of a fibrous character and terminating in suppuration and raw patches (Amanzhulov et al., 1930). It is mainly seen in camels, since there is different blood types in animals, the intensity by which disease effect also varies (Sreeremya, 2018).

**Distribution** — The disease is broadly distributed throughout the Punjab; it is not so common in the Lahore District as in the Jhelum and Rawalpindi Districts. It commonly occurs in the cold weather.

**Etiology**— The causal organism one have been unable to isolate, though probably it is a fungus.

**Pathogenicity**.—Horses, cattle, buffaloes, dogs, guinea pigs and rabbits appear to be quiet immune. An inoculation of parts of the Jhooling lesion into the above animals does not specifically generate the disease. When portions of the lesions are rubbed on the skin, whether the skin be scarified or not, no Jhooling lesion is synthesized in any of the above animals. Horses, buffaloes and cattle kept in contact with camels suffering from Jhooling did not contract the disease, but many healthy camels kept in contract with the camels suffering from Jhooling contracted the disease. When portions of Jhooling lesions are mainly rubbed on the scarified skin of a healthy camel the disease develops after a few days. In only one case did the disease develop when a portion of the Jhooling lesion was then rubbed on the unscarified skin of a healthy camel?

**Symptoms**— The first symptom of the disease is a hot, hard and painful swelling varying from 1 to 4 inches in diameter usually on the neck or hind-quarters or on the testicle, though the lesion may occur in almost any part of the body. After a few days the swelling becomes very much irritating, and if it is situated in any part of the body that the camel can reach with his teeth, one will gnaw at it, leaving a raw wound. In all cases, after the lapse of some

time, suppuration takes place, and finally the wound heals, leaving a small white spot, which lasts for few weeks to several months. As a rule several lesions are found on every camel suffering from the disease and the camel loses condition (Bauman, 1930).

**Treatment.**—*I* The lesion may be excised; pure phenyle or carbolic acid can be applied, and the wound then treated as any ordinary wound

*II*—A blister of red iodide of mercury can be applied (this hastens the formation of pus)—the lesion should be opened up, pure phenyle or carbolic acid applied, and the wound then dressed with “black wash.” The lesion often takes a considerable time to heal; “black wash” certain studies have found gives good results when ordinary wound dressings fail. When the lesion has been opened up and thoroughly cleansed Socin's plaster often gives good results (Borisovich et al., 1966).

**Anatomical Changes**— The tumour encompasses of fibrous tissue, finally undergoing suppuration. Examination of the pus reveals streptococci no staphylococci have been observed. When examining a post-mortem on camels suffering from Jhooling, so am unable to

state whether lesions occur in the internal organs (Sadykov, 1976).

**Prevention**— Camel men are well aware of the specific contagious nature of this disease. If they have a camel suffering from Jhooling lesions in the neck, this camel is always placed first mainly in the string of camels ; whereas if the lesions are On the hind quarters the camel is tied last (Borisovich et al., 1967). Very few information is known about the pathogens that circulate in camel populations and how these pathogens interact with the camel (Sadykov, 1971).

- Very few diagnostic tests are also validated for use in camels, a dit is not fully understood how they respond to vaccines.
- Role of camels in the human disease ‘Middle East-Respiratory Syndrome (MERS)’ and questions about the validity of antibody tests and assessment for MERS in camels have highlighted the need to better understand disease dynamics in these creatures.

## CONCLUSION

There are several diseases affecting the Dromedaries and bactrian camels. Pox ,

enteric infection, Staphylococcal infection, Middleeast respiratory syndrome are some disease. The countries in which the camels are mostly affected with contagious disease are also discussed.

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