



Bovine Mastitis: Pathogenesis and Susceptibility

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ABSTRACT

Manifestation of inflammation of mammary gland is termed as 'mastitis'. In spite of the rigorous steps taken to control mastitis across the world, it still remains an unconquered mountain. Currently, *Escherichia coli* and *Streptococcus uberis* continue to be the major causative factors. In India, there is increasing trend of farmers looking towards dairy sector for their sustenance as the land continues to shrink and there is uncertainty in rain pattern across the country. Mastitis is a chronic problem that affects the milch animals that affects not only the farmer's economy but the economy of country as a whole. Various infectious and non-infectious agents are responsible for bovine mastitis. The causative agent varies with respect to place, climatic conditions, breed and rearing practices. The aged cattle and exotic breeds like Holstein Friesian (HF) and Jersey are more susceptible to mastitis. Monsoon season is associated with the highest incidence of mastitis. Unorganised herds have high rate of occurrence of mastitis. Sub clinical mastitis is directly associated with age (as the teat canal and sphincters are affected), milking period, and surrounding environment. Several microbes form biofilm leading to recurrent infections and drug resistance making it a top urgent issue to be looked into.

Keywords: Mastitis, economy, Holstein, Jersey, Teat canal

With the advancement of age, the demand of milk has increased many folds. Looking towards the demand of society, the artificial insemination was introduced years back for breed upgradation to achieve the optimum productivity. The dairy industry is also supporting the livelihood of poor and marginal farmers. A number of entrepreneurs also started the dairy business in India by forming co-operative societies to achieve proper marketing and production. With the modernization, traditional hand milking customs are being lost and milking machine has been introduced. On medium to large dairy farms, where improved dairy breeds are used, it is more common and convenient to milk animals with milking machines. Irrespective of the milking method (hand or machine), it is crucial to avoid contamination of the milk during and after milking. The opportunist pathogens enter the teat canal and

thus multiply to cause infection. Hence concept of good dairy farming practices has been introduced to avoid the infection, but mastitis still exists as a recurring infection affecting the dairy industry and thus reduces the milk productivity.

Mastitis is defined as an inflammation of the mammary gland. The pathogenic microorganisms like bacteria, virus or fungi enter into the udder through teat canal invading the cow's defense mechanisms and thus begin to multiply in the udder. The toxins produced by the pathogens are harmful to the gland damaging the tissue and thus increases

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