

Horn cancer: A painful condition in cattle

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Horn cancer is a widely prevalent and economically important disease predominantly of aged zebu cattle causing incurable economic losses due to reduced draught and milk production capacity. It is a sporadic, malignant cancerous disease of horn core epithelium predominantly aged zebu bullock, especially animals 8 years and above. Animals less than 4 years of age are generally not affected.

Epidemiology and geographic distribution

The disease is characterized by bending and drooping of the affected horn, development of cauliflower-like cancerous growth, cachexia, anaemia and death after prolonged sickness. This tumor occurs almost exclusively in India with a prevalence rate of 9.9 per 1000 animals. In India, sporadic cases of horn cancer are recorded in most of the states like Haryana, Uttar Pradesh, Gujarat, Maharashtra, Madhya Pradesh and Bihar. India is the only country where due to ethnic reasons sacred cows are maintained till, they die and so this neoplasm of aged animals gets the opportunity for expression. This disease is negligible in exotic species and their crosses possibly due to dehorning practices. Also, Dehorning practices are avoided in zebu cattle under field situations or fancy purposes, thus making them prone to horn cancer.

Factors affecting the outcome of Horn cancer

- **Breed:** Surveys indicated that horn cancer is more prevalent in long-horned and white-coated breeds of cattle. The highest frequency was noted in the long-horned Kankrej breed of cattle.
- **Species:** Horn cancer is a disease of cattle although some cases were also reported in buffalos and sheep.
- **Age:** Tumour has not been found in animals less than 4 years. It's more prevalent in animals 8 years and above.
- **Sex:** Horn cancer affects working bullocks the most than cows and the disease is occasionally seen in bulls.
- **Chemicals, chronic irritation and trauma:** Frequent painting of horns by varnishes, colour, and coal tar. Farmers apply these chemicals to beautify horns, these paints penetrate the crevices caused by paring, resulting in the decay of horny tissue. Trauma is caused by the close tying of rope at the base of the horn to restrain animals, or by striking the yoke to the horns during draught.



- **Solar radiation:** In comparison to bulls and cows, bullocks are much more involved in field work and get excessive exposure to sunlight. White skin-toned animals are more susceptible because of the absence of pigment in the lid epithelium.
- **Hormones:** Early castration of bullocks predisposes them to the disease. Bullocks contain low levels of hormones such as oestrogen, progesterone, testosterone, and cortisol which predispose them to this disease.
- **Miscellaneous:** In a study, it was observed that malnutrition and Hypovitaminosis A also predispose the animal to this disease.

Disease symptoms:

- Head shaking and rubbing of horn
- Slight slimy or bloody discharge from nostrils and lacrimation.
- Gradual loosening, and bending of horn, followed by formation of soft swelling at the base
- In advanced cases sloughing of horns and development of highly vascular, friable, cauliflower-like neoplastic growth

Diagnosis:

Diagnosis can be done by clinical signs and can be confirmed via histopathology.

Treatment:

- Conventional treatment is done via amputation of the affected horn, removal of cancerous mass and further dressing via antiseptic
- Chemotherapy with vincristine sulphate
- Immunotherapy using Levamisole