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Popular Article

Horn Cancer in Kankrej Cattle of Rajasthan: Clinical Occurrence and Surgical Management

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Abstract

Horn cancer is one of the most common neoplastic conditions observed in cattle in India, particularly in long-horned indigenous breeds. The disease is commonly diagnosed as Squamous Cell Carcinoma originating from the epithelial lining of the horn core. The condition is frequently reported in breeds having large horns such as Kankrej cattle. The present article describes the occurrence, clinical signs, diagnosis and surgical management of horn cancer in cattle under field conditions in Rajasthan. Early diagnosis and surgical removal of the affected horn are the most effective treatment strategies.

Keywords: Horn cancer, Kankrej cattle, Squamous cell carcinoma, horn amputation, Rajasthan

Introduction

India has one of the largest cattle populations in the world, with many indigenous breeds characterized by large horns. Among them, Kankrej cattle are widely distributed in western India, especially in Rajasthan and Gujarat.

Horn cancer is one of the most frequently reported tumors in cattle in India. The disease mainly affects adult animals between 5-10 years of age. Several studies have reported that horn cancer accounts for approximately **1% of all tumors in cattle** and represents a major portion of neoplastic conditions in bovines (Naik and Balakrishnan, 1963).

The tumor originates from the epithelial lining of the horn core and gradually spreads to surrounding tissues including the frontal sinus. If not treated early, it can lead to severe infection, chronic pain and systemic complications.

Etiology

The exact etiology of horn cancer is not completely understood, but several factors



are considered important in its development.

Major predisposing factors include:

- Chronic irritation at the horn base
- Repeated trauma to horns
- Prolonged exposure to sunlight (UV radiation)
- Infection and inflammation
- Poor management practices

Continuous irritation may lead to abnormal proliferation of epithelial cells which eventually develop into squamous cell carcinoma.

Clinical Signs

Horn cancer develops slowly and may initially appear as a small lesion. As the disease progresses, the following signs become evident:

- Bleeding from the horn base
- Foul smelling purulent discharge
- Head shaking and irritation
- Swelling around the horn base
- Cauliflower-like tumor growth
- Loosening or detachment of horn
- Nasal discharge from affected side

In advanced cases, the tumor may invade the frontal sinus and surrounding tissues.

Diagnosis

Diagnosis is mainly based on clinical examination and characteristic lesions observed at the base of the horn.

Confirmatory diagnosis can be done through:

- Histopathological examination
- Cytology
- Radiographic examination

Histopathology typically shows keratin pearls and abnormal squamous epithelial cells which are diagnostic features of squamous cell carcinoma.

Treatment

The most effective treatment for horn cancer is **surgical amputation of the affected horn. Surgical Procedure**

1. Proper restraint of the animal
2. Administration of corneal nerve block using lignocaine



3. Amputation of horn using Gigli wire or surgical saw
4. Removal of tumor tissue
5. Cleaning of frontal sinus cavity
6. Control of hemorrhage
7. Antiseptic wound dressing

Post-operative Treatment

- Broad spectrum antibiotics for 5-7 days
- Anti-inflammatory drugs
- Daily antiseptic dressing
- Fly repellents to prevent maggot infestation

Prevention

Although horn cancer cannot be completely prevented, certain management practices can reduce the risk:

- Avoid tying ropes around horns
- Prevent repeated trauma to horns
- Maintain proper hygiene in cattle sheds
- Treat horn injuries immediately
- Conduct regular veterinary checkups

Early detection and treatment are essential for successful recovery.

Conclusion

Horn cancer is a significant neoplastic condition affecting long-horned cattle breeds such as Kankrej in western India. The disease can cause severe health problems if not treated early. Surgical amputation of the affected horn remains the most effective treatment. Increasing awareness among farmers and timely veterinary intervention are crucial for reducing economic losses.

References

- Naik, Shankar Narayan and Balakrishnan, Venkataraman (1963). Studies on horn cancer in cattle in India. *Indian Veterinary Journal*.
- Udharwar, Shankar Vishwanath; Aher, Vishwas Dattatraya and Bhokre, Arun Prakash (2008). Epidemiological studies on horn cancer in cattle. *Indian Journal of Veterinary Surgery*.
- Joshi, Bharat Prasad; Chauhan, Pramod Singh and Patel, Bhupendra Kumar (2009). Incidence of horn cancer in Kankrej cattle of Gujarat. *Indian Journal of Animal Sciences*.
- Jakhesara, Suresh Jayantilal; Koringa, Pratik Girish; Bhatt, Varsha Devang; Patel, Jatin Kumar and Joshi, Chaitanya G. (2013). Transcriptome analysis in horn cancer of *Bos indicus* cattle. *Molecular Biology Reports*.
- Chandratre, Ganesh Anandrao; Patel, Rakesh Kumar; Sharma, Devendra Kumar and Patel,



- Anil Kumar (2020). Molecular characterization of squamous cell carcinoma in bovine horn cancer. *Veterinary and Animal Science*.
- Otto Martin Radostits, Clive C. Gay, Kenneth W. Hinchcliff and Peter D. Constable (2007). *Veterinary Medicine: A Textbook of the Diseases of Cattle, Horses, Sheep, Pigs and Goats*. Saunders Elsevier.
- Donald C. Blood and Otto Martin Radostits (1989). *Veterinary Medicine: A Textbook of the Diseases of Cattle, Sheep, Pigs, Goats and Horses*. Bailliere Tindall.
- Rameshwar Prasad Singh Tyagi and Jit Singh (2012). *Veterinary Surgery and Radiology*. CBS Publishers, New Delhi.
- Ananthanarayanan Venugopalan (2000). *Essentials of Veterinary Surgery*. Oxford and IBH Publishing.
- Ram Prakash Gupta (2008). *Veterinary Clinical Diagnosis*. CBS Publishers.
- Stephen J. Withrow and E. Gregory MacEwen (2007). *Small Animal Clinical Oncology*. Saunders Elsevier.
- Maxie, M. Grant (2015). *Jubb, Kennedy and Palmer's Pathology of Domestic Animals*. Elsevier.
- Douglas H. Slatter (2003). *Textbook of Small Animal Surgery*. Saunders.
- Cynthia M. Kahn and Scott Line (2010). *The Merck Veterinary Manual*. Merck & Co.
- Indian Council of Agricultural Research (ICAR) (2013). *Handbook of Animal Husbandry*.
- Department of Animal Husbandry and Dairying, Government of India (2021). *Standard Veterinary Treatment Guidelines*.
- World Organisation for Animal Health (WOAH/OIE) (2022). *Terrestrial Animal Health Code*.
- Food and Agriculture Organization of the United Nations (2019). *Livestock Health and Disease Control Guidelines*.
- Tizard, Ian Robert (2018). *Veterinary Immunology: An Introduction*. Elsevier.
- Moulton, Jack Edwin (1990). *Tumors in Domestic Animals*. University of California Press.

