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Surgical Excision of a 20 kg Tumour in a 15-Year-Old CB Cow

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Abstract:

This case report describes the successful surgical removal of a 20 kg tumour from the right forelimb of a 15-year-old CB cow in Bajipura village, Umreth Taluka, Anand District, Gujarat. The cow presented with chronic lameness and pain due to the large mass, which had been present for two years. The surgery performed at the owner's residence with careful excision to minimize blood loss, followed by comprehensive post-operative care. Twenty days post-surgery, the cow exhibited complete recovery, with restored mobility and no complications. This case highlights the feasibility of complex surgical interventions in rural settings and underscores the importance of accessible veterinary care for livestock welfare.

Keywords: Large tumour, CB cow, Surgical excision, Veterinary care, Uneventful recovery

Introduction:

Tumours in livestock, though uncommon poses significant challenges to animal health and farmer livelihoods, particularly in remote rural areas with limited access to veterinary services. Bovine tumours may arise from various etiologies, including lymphatic dysfunction, genetic predispositions, or hormonal imbalances, leading to abnormal cell growth. This report details a veterinary intervention involving the surgical excision of a large tumour from the leg of an aged cow. Conducted in a resource-constrained environment, the procedure demonstrates the critical role of skilled veterinary care in improving animal welfare and the adaptability of surgical techniques to field conditions.

Symptoms:

15-year-old CB cow presented with a large tumour on its right forelimb since two years as per owners' history.

Clinical symptoms included: A prominent, heavy mass on the right forelimb, causing significant lameness. Impaired mobility, with difficulty walking due to the tumour's weight (approximately 20 kg). Chronic pain, inferred from reduced activity and reluctance to bear weight on the affected limb. No

systemic signs, such as fever, weight loss, or anorexia, suggesting a localized condition.

Diagnosis:

Examination revealed a solid, well-demarcated mass on the right forelimb, measuring approximately 20 kg. The tumour's chronicity and the cow's advanced age suggested a slow-growing lesion, potentially benign or locally invasive. The diagnosis was based on clinical presentation, with the mass presumed to be a soft tissue tumour.

Etiology:

- Lymphatic system deficiencies, promoting abnormal tissue growth.
- Genetic mutations or hereditary factors driving uncontrolled cell division.
- Hormonal imbalances or chronic stress, which may increase tumour risk.

Surgical Procedure:

The surgery was performed on-site at the owner's residence. The cow was restrained safely to minimize stress and ensure team safety.

- The surgical site was clipped, cleaned with antiseptic solution (povidone-iodine), and draped.
- Surgical treatment was performed on the neoplastic lesion under the influence of xylazine injection (2%w/v) at a dose of 0.1 mg/kg.b. wt. and premedicated with atropine sulfate at a dose of 1-2 mg/ 40kg.b. wt. Local anesthesia was obtained using 90mL Lignocaine HCl 2% around the lesion.
- A careful incision was made around the tumour, avoiding major blood vessels to reduce hemorrhage risk.
- Blunt and sharp dissection techniques were used to isolate the mass from surrounding tissues, preserving healthy muscle and skin where possible.
- The 20 kg tumour was meticulously excised, ensuring complete removal to minimize recurrence risk.
- Hemostasis was achieved using ligation of vessels and manual pressure to control bleeding.
- The mass was removed intact and set aside for potential gross examination, though histopathological analysis was not done due to resource limitations.
- The surgical site was irrigated with sterile saline to remove debris and reduce infection risk.
- The wound was closed with non-absorbable sutures (cotton thread) for the skin.
- An antiseptic dressing was applied to protect the site.
- The excision of large tumour requires careful handling to prevent excessive blood loss, a primary concern given the cow's age and the field setting.

Treatment:

- Broad-spectrum antibiotic (Streptopenicillin) used intramuscularly for 7 days to prevent post-surgical infection.

- Non-steroidal anti-inflammatory drug (Meloxicam) was given for 7 days to manage pain and inflammation.
- The owner was instructed to clean the surgical site daily with antiseptic solution (Tincture iodine) and monitor for signs of infection (e.g., swelling, discharge, or heat).
- Sutures were to be removed after 14 days.
- The cow was provided with a clean, dry resting area to limit wound contamination and stress.
- Dietary support, including adequate fodder and water, was emphasized for early recovery.
- Follow-up visits by the Amul Dairy team confirmed the cow's progress.
- By day 20 post-surgery, Complete wound healing with no signs of infection or dehiscence and Restored mobility, with the ability to walk without lameness.

Before surgery

One month after surgery

Discussion:

This case illustrates the challenges and successes of performing complex veterinary surgery in a rural, resource-limited setting. The large tumour, likely a soft tissue neoplasm, significantly impaired the cow's quality of life, and its removal restored function and alleviated suffering. The decision to operate on-site reflects the adaptability of veterinary teams in addressing logistical barriers, a common issue in remote areas. The successful outcome highlights the efficacy of standard surgical techniques—careful dissection and hemostasis combined with diligent post-operative care. The case also emphasizes the role of organizations like Amul Dairy in extending veterinary services to underserved regions, aligning with broader goals of livestock welfare and sustainable agriculture.

Conclusion:

The surgical excision of a 20 kg leg tumour from a 15-year-old cow in Bajipura village demonstrates the impact of skilled veterinary intervention in rural settings. Through careful planning, precise surgical execution, and comprehensive post-operative management, the cow achieved full recovery within 20 days. This case underscores the importance of accessible veterinary care and serves as a model for managing large tumours in livestock under field conditions

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