

## Surgical Treatment of Congenital Tail Fibrosarcoma in a Three-Year-Old Crossbred Jersey Cow

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### ABSTRACT

A three-year-old crossbred Jersey cow was presented with a history of a huge mass on the tail to the large animal surgery unit. The mass was reported to be present at the tail from the time of birth. The size of the mass increased as the animal aged. On physical examination, a football-sized ulcerated mass was noticed at the cranial edge of the middle one-third of the tail. On palpation, no pain was evinced, and the mass was firm in consistency. On clinical examination, all the vital parameters were found to be normal. FNAC revealed fibrosarcoma, and hence the case was tentatively diagnosed as fibrosarcoma. Surgery was scheduled after the routine pre-operative haemato-biochemical analysis. Caudectomy was performed under epidural analgesia, and the tumour mass was sent for histopathological analysis. Histopathology confirmed the case as fibrosarcoma. With postoperative antibiotics and supportive therapy, the animal recovered completely.

**Keywords:** Fibrosarcoma, Caudectomy and Cow

### INTRODUCTION

The aetiology of the neoplasm in ruminants was multifactorial, but it was suggested that predisposition to the tumour may be hereditary in some cases. A survey on farm animal neoplasm reported the incidence of different tumours: fibropapilloma (54.4%), fibroma (8.4%), SCC (1.9%), lymphosarcoma (0.9%), haemangiosarcoma (0.9%), liposarcoma (0.4%) and malignant teratoma (0.4%) (Moharram *et al.*, 2019). Affections of the tail are common in cattle, which include

dermatitis, trauma, fracture, paralysis, luxation, necrosis, gangrene, diskospondylitis, tumours and tail rot. Tail affections are mainly treated either conservative method or by amputation of the tail cranial to the affected area (Pratheepa *et al.*, 2021).

### CASE HISTORY AND OBSERVATIONS

A three-year-old crossbred Jersey cow was presented to the large animal surgery unit of Veterinary Clinical Complex, Veterinary College and Research Institute, Tirunelveli, with a history of a hard mass on its tail since birth, and the size of the mass increased as the animal aged. General examination revealed that the animal was normal, active and alert with interference of gait due to such a large-sized mass located at the cranial edge of the middle one third of the tail (Figure 1). On physical examination of the mass, ulceration and bleeding were noticed. On palpation, it had a firm consistency with no pain. On clinical examination, rectal temperature was 37.9°C, conjunctival mucous membrane was pink and moist, and no abnormalities were detected in the lymph node. For further confirmation, FNAC was done, which revealed the mass as fibrosarcoma. Hence, a surgery was fixed for tumour excision by caudectomy. Haematology and serum biochemistry values were within the normal range, except ALP, which was 308 U/dl, and pre-operative plain thoracic radiography revealed no metastasis.

### TREATMENT AND DISCUSSION

The animal was restrained in a Trevis. The entire tail region was prepared with 7.5% povidone iodine and surgical spirit. Under epidural anaesthesia with 2% lignocaine, a

tourniquet was placed at the base of the tail. A "U" skin incision was done at both the dorsal and ventral parts of the tail, 4" cranial to the tumour mass and the skin was everted, subcutaneous tissues dissected, and blood vessels in the tail region double ligated. Surgical caudectomy was performed (Figure 2) at the level of the intercoccygeal joint space, and the incised edges were opposed by Catgut 1-0 for subcutaneous tissue and silk size 1 for skin. A 5.6 kg weighing tumour mass was removed (Figure 3) and sent to histopathology analysis, and the results confirmed the tumour as fibrosarcoma. Postoperatively, the animal was treated with Inj. Ceftriaxone at a dose rate of 10 mg per kg body weight intravenously, Inj. Meloxicam at 0.5mg per kg body weight intramuscularly for 5 days. It was advised to give Tab. Yea Sacc (20Nos) 5 tablets, Sid for 4 days, and Ointment povidone iodine for wound management. Suture was removed on the 10<sup>th</sup> postoperative day, after complete healing (Figure 4). A follow-up of six months revealed no recurrence. The animal completely recovered.

Fibrosarcoma or fibroblastic sarcoma is a malignant mesenchymal tumour derived from the fibrous connective tissue containing immature proliferating fibroblasts. It was an uncommon tumour in cattle, though it is common in dogs. It is a slow, progressively growing tumour. There are two types of fibrosarcoma, i.e., adult type and infantile or congenital type, which is due to translocation of chromosomes 12 & 15 or fusion of genes (Suryawanshi et al., 2019). In cattle, spontaneous tumours are referred to as congenital when it appears in fetuses, newborn or young calves (Rosiers et al., 2020). In this case, the mass was reported to be

present at the time of birth, and hence it is diagnosed as a congenital fibrosarcoma. Treatment for fibrosarcoma is a combination of surgery and radiation or chemotherapy, as other tumours (Gulbahar et al., 2002). Poor prognosis in ruminant tumours is mainly due to the delay in presentation. Extensive masses mostly have the involvement of the adjacent parts, which leads to the consequence like recurrence (Sangwan et al., 2021).

### SUMMARY

A rare case of an infantile type of tail fibrosarcoma was successfully treated by caudectomy surgery in a three-year-old crossbred Jersey cow.

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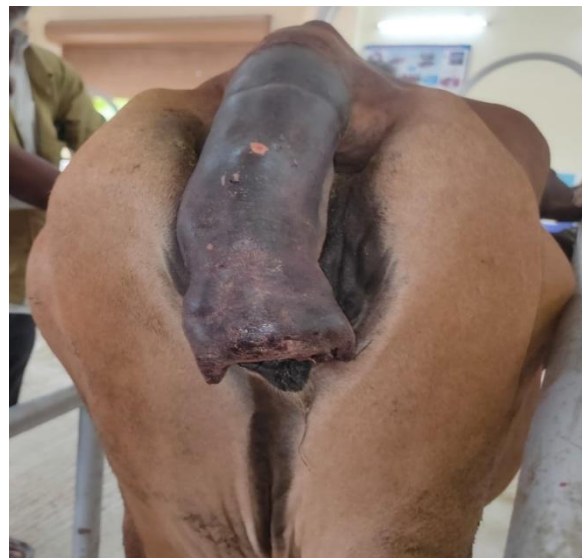
**Figure 1: Pre-operative picture showing a football-sized mass on the tail**



**Figure 2: Intra-operative picture of tail amputation**



**Figure3: Picture showing the excised tumour mass**



**Figure 4: Post-operative picture showing complete healing of the surgical site**