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Received: 23 May, 2019

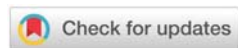
Accepted: 24 August, 2019

Published: 26 August, 2019

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Keywords: Double tail; Congenital disorder; Buffalo calf; Tail affections

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Introduction

Congenital anomalies are often result of genetical, environmental, managemental or nutritional factors which include morphological, physiological and functional disorders [1]. Besides all these, toxins and drugs can also cause congenital abnormalities (CA). The anomalies are 0.2-3% reported in cattle, sheep and pigs [2]. As for all genetic defects, 24% affect skeletal muscles, 13% affect the digestive and respiratory system, 22% central nervous system, 9% ventricular membranes, 4% urinary system, 3% cardiovascular, 2% affect skin [2]. The rest of 4% are associated to other body systems [3]. Cows have a lot of undesirable traits which range from weak characteristics and structural imperfections to fatal diseases. They are not common in most cattle, but the frequency of cattle is quite high [4]. Some usual congenital malformations are spina bifida, congenital tailless, atresia ani, sacrococcygeal agenesis [5]. Although there is no specific treatment for congenital anomalies except surgical intervention. The current congenital issue was subjected to resolve by surgical intervention.

Case Presentation

A twenty-five-day old female cross bred buffalo calf was

Case Report

Double tail anomaly and surgical intervention

Abstract

Congenital problems can be caused by genetic or chromosomal abnormalities. Some of these problems can be treated through different methods. These methods of treatment depend on the level deflection. A twenty-five days old female cross bred buffalo calf was presented at out-door of Department of Clinical Medicine and Surgery, Faculty of Veterinary Sciences, University of Agriculture Faisalabad with a complaint of an extra tail and maggots' infestation. On complete physical examination abnormal growth was suspected as congenital problem with the presence of second tail. Surgical intervention was proposed as line of action against this anomaly. Xylazine Hydrochloride 0.1 mg/kg, Ketamine 3mg/kg, and Lidocaine HCl 2% were used in an anaesthesia protocol. Firstly, maggots were removed manually after filling maggot's tunnel with Turpentine oil. Then an incision was given around the extra abnormal tail. Absorbable suture (2-0) was applied on subcutaneous tissue by simple continuous suture pattern while sterile silk (1-0) was used to close the skin finally. 1% Ivermectin was injected subcutaneously at the dose rate of 0.6 mg/kg, and Oxytetracycline spray was recommended as the post-surgical antibiotic. The calf was fully recovered without any postoperative complications after fifteen days. Surgical treatment was found successful in current double tail anomaly.

presented at outdoor patient Department of Clinical Medicine and Surgery, University of Agriculture, Faisalabad with a complaint of double tail and some extra mass with maggots' infestation on perineal area. Physical examination was performed to confirm either the abnormal growth is a tumour, oedema or congenital anomaly. Absence of fluid on aspiration dragged attention toward congenital abnormality due to abnormal growth of extra tail (Figure 1).



Figure 1: A: Calf having double tail. (t) double tail, (em) extra mass; B: (mi) perianal fistula with maggots' infestation.

Surgical procedure

All cardinal signs were confirmed normal following which clipping of hairs over surgical site was done. The site was aseptically prepared using povidone iodine. Xylazine Hydrochloride 0.1mg/kg, Ketamine 3mg/kg were given

intramuscularly as general anaesthesia. Lidocaine HCl 2% was also used as epidural anaesthesia. First of all, maggots were manually removed by thumb forceps. Turpentine oil was poured in maggot's tunnel to remove and kill the maggots and their eggs. After that a round incision was given at the right lateral side of the main tail between C2 and C3. Excision of another tail was achieved by careful dissection to protect the sacrococcygeal muscles (dorsal, medial, lateral and ventral) and coccygeal muscles for preventing the perforation of the rectum. Undermining of skin by scissor was done for ligation and suturing. Careful dissection of underlying tissues was performed through scalpel and scissors to avoid any unwanted bleeding. Blood vessels were ligated in the middle of two holding artery forceps with polyglactin 910 (2-0) in order to cut down vessels located toward the end (posterior) mass. Forceps near the dissection site were removed one by one after confirming no seepage or bleeding. The incision was lavaged extensively with Ringer lactate containing penicillin. After that, Incision was closed by using simple continuous suture pattern after dissection of abnormal mass (Figure 2). Sterile silk (1-0) was used to close skin by using simple interrupted suture pattern technique.

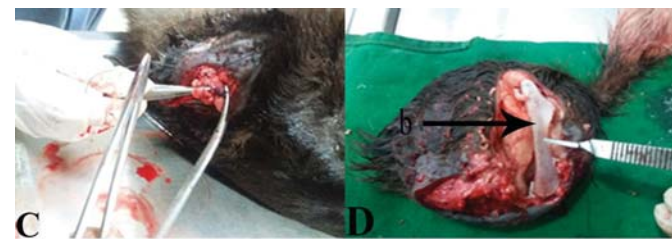


Figure 2: C) Surgical resection and ligation; D) Bone in abnormal mass (b).

Post-operative care

For postoperative care, Enrofloxacin 7.5mg/kg, Flunixin Meglumine 1.1-2.2mg/kg, Pheniramine maleate 2.27mg/kg were prescribed for five consisting days.

Results

There were no complications except a slight swelling of incision which was cleared up within a week. Skin sutures were removed after ten days of surgery. A significant healing was observed at 10th day. The positions of the anus as well as vulva were remained normal. The calf was housed in a tie-stall for 15 days. Fifteen days later, the calf had attained full healing with no any abnormal imperfection. At 15th day examination, no neurological deficits of gait were observed. Anal and perineal

reflexes at the incisional site were found normal. While and skin sensitivity was also found normal. The surgical technique used in calf appears advisable for treatment of such anomalies, including injuries and tumours.

Discussion

Congenital anomaly is an explanatory term that refers to a condition that exists at birth. Developmental or congenital anomalies include functional and morphological defects [4]. The cause of these birth defects is unknown, but some of them are hereditary. The genetic diseases of many cows are mainly caused by autosomal recessive genes. These genes are characterized only as a pathological phenotype when it is present in both loci. Thus, autosomal recessive genetic diseases are subjected to pastoralism more than the dominant or recessive genetic phase X [6]. Such tail defects of domestic animals are referred to a genetic origin that occur primarily when crossing different varieties. Recent studies and information indicate that unappropriated bulls for breeding encourage congenital anomaly to grow [2].

Conclusion

Genetic or chromosome abnormalities may be due to the increased frequency of inbreeding and the spread of negative alleles that cause genetic diseases. To avoid this problem, it is necessary not only to create breeding programs but also to avoid inbreeding. For investigating and preventing bovine congenital anomalies, all abnormal cases must be registered with the veterinary organization and its related organizations. Surgical method was found successful in current double tail anomaly.

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