

A COMPARATIVE CASE STUDY ON WOUND HEALING COMPLICATIONS AFTER CASTRATION IN BULL CALVES

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ABSTRACT

An experiment was carried out to evaluate the wound healing complications after practicing open-open and open-close method of castration in bull calves. Two animal groups of six bull calves each were selected for the study. Group-1 animals were castrated by open-close method, whereas the group-2 animals were castrated by open-open method of castration. The study was conducted by considering the clinical cases presented at Vrundavan Polytechnic College, Jasdan. By considering the observed results, it can be concluded that early wound healing process along with minimum post-operative complications was observed in the group-1 than that of group-2 animals.

KEY WORDS: *Castration, Open-close method, Open-open method*

INTRODUCTION

Castration of male cattle is common ancient husbandry procedure used to produce docile cattle, easily manage for draught work and to modify carcass quality for meat purpose breeds all over the world (Stafford and Mellow, 2005). Testosterone, which is secreted by testicles and enhanced the secondary sex characteristics. By removing or inhibiting development of the testes, testosterone and motile sperm are not produced. Surgical castration removes the testes from the scrotum via an incision process (Cohen *et al.*, 1990). Castration routinely performed with closed method by burdizzo castration in early age, whereas chemical methods is practices for bloodless castration, applying pressure on scrotum by rubber banding method and surgical

removed by open close method and open-open method for castration.

MATERIALS AND METHODS

Selection of animals

Calves were selected randomly above one year age old from the Gausala They were divided into two groups and each group contains six number of calves. They were de-wormed with fenbendazole @ 5 mg per kg body weight just 24 hours prior the operating surgery. All the calves were pre-medicated with Meloxicam @ 0.5 mg/kg IM as analgesic and Enrofloxacin @ 2.5 mg/kg IM as antibiotic just 30 minutes prior to surgery.

Surgical approach

Calves properly restrained and locally anesthetized drug (lignocaine 2%) was infiltrated surrounding the scrotum in dorsally recumbence. Routine aseptic skin

preparation performed just before incisions on the scrotum. The scrotal skin and tunica vaginalis over the testes are held by holding the testis and incision performed on its lateral aspects of testis and properly cut through in sequence from out most layer to inner layer as the scrotal skin, tunica dartos, scrotal fascia and parietal tunic (Figure 1A). The prolapsed out testis which attached with parietal tunic by the ligament of the epididymis. It released from muscles and uncover the vessels and ductus deferens which was then cut and fix with the help of using Catgut No. 2. Fascia around the parietal tunic was removed all covering for easy clamping and removal. This was easily proven with twitching the parietal tunic with help of Allis tissue forceps (Figure 1B). The fascia was stripped proximally using gauze swab. Alternatively, the parietal tunic, the cremaster muscle, the vessels and the ductus deferens could all be ligated together (Figure 1C). In all cases, spermatic cord was incised 2 cm below the ligature and testes were removed distal to the ligature. After removal of the testes, in group-1, scrotal skin was closed by the horizontal mattress suture technique using absorbable surgical suture with catgut which has been easier to not disturb again for break the sutures. (Figure 1D), while in group 2 calves, a sterile bandage gauge was kept inside the scrotal sacs with antiseptic solution and kept remain open without suture.

RESULTS AND DISCUSSION

Inflammation sign were quickly observed which revealed by the oedema and the erythema at the site of incisor and around the lesion. Normally, cell response is initiated within the first 24 hours and can observe up to two days according to surgical practices (Medrado *et al.*, 2003). The calves of both the groups observed moderate degree swelling after competition of surgery due to the open tunica vaginalis in both the groups at the time of surgical practices. Scar

formation began in the microenvironment of the lesion within the first 48 hours and can unfold up to the 14th day after the onset of the lesion (Li *et al.*, 2007). It helped for the closure of the lesion by the process of angiogenesis, fibroplasia, and reepithelialization in operated area. Postoperative scrotal abscess was observed due to contamination in group-2, which leads to decline proliferation of cell and it were treated by surgical drainage and daily antiseptic dressing with 5 per cent povidone iodine solution till complete recovery. In group 2, bleeding was being observed due to excessive aggression after surgery. It should be again operated and ligated well with anti-septic precautions. Complete healing observed and begins two to three weeks after the onset of the lesion.

CONCLUSION

Postoperative swelling of assorted degree in and round the site in calves whereby the tunica vaginalis was unbroken open, however, scrotal skin was sutured. Prolong period of wound healing is observed in group 2 due to more probabilities of contamination infield open-open technique of castration and bleeding was being observed due to excessive aggression after surgery.

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Figure 1A



Figure 1B



Figure 1C



Figure 1D

Figure 1A to 1D: Surgical approach for the castration of bull calves

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