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Preparation of teaser bulls

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Abstract

Vasectomy is the safe, simple and fast method of sterilization with a low risk of bleeding and uses few resources. Five Jersey calves were selected for the procedure after proper clinical and andrological evaluation. Successful vasectomy was performed for the preparation of teaser bulls in all the five animals under local anesthesia. The animal recovered uneventfully without any complications. This technique has proved its simplicity, cost effectiveness, and celerity, both in execution and animal recovery. It could also be used in other species of interest like sheep and goat.

Keywords: Bull, teaser, spermatic cord, vas deferens, vasectomy

1. Introduction

The utilization of a teaser bull (intact sterilized male) is the most reliable method of estrus detection in the utilization of an artificial insemination program (Grissett, 2015) [4]. Teaser bull procedures can be divided into two categories: those that block semen flow and deliver sterility (vasectomy, epididymectomy, injection of sclero-therapeutic agents into that organ) and those that prevent penile penetration (penile-prepuce translocation, preputial pouch, penopexy or deviation of penis) (Silva *et al.*, 2002) [10]. Vasectomy in bull is the best and safe method of sterilization, which can render a bull permanently sterile in less than a week (Tharp, 1955; van Rensburg and SJ, 1963; Ron, 1969) [11, 13, 7].

2. Materials and Methods

5 calves of Jersey genotype were selected at mountain livestock research institute (MLRI) Mansbal, Kashmir with an average of 12 months of age and 80-100 kg of live weight, clinically healthy, with bone-muscular integrity and sexually active. They underwent the andrological examination to determine or evaluate their aptitude to perform in the future an efficient suspicious activity, those animals with less than four points in the libido scale (0 to 10 points) proposed by Chenoweth (1981) [1].

2.1 Surgical procedure

The animal was placed in dorsal recumbency with the limbs in extension. The area was clipped and aseptically prepared for surgery and 2% Lidocaine was infiltrated at the incision site (Figure 1). The sequence of the surgical act began with the skin incision dorsally on the neck of the scrotum (Figure 2) through the skin and tunica dartos over each spermatic cord. Then the spermatic cord was isolated by placing a finger underneath the entire spermatic cord (Figure 3). The ductus deferens was then identified via palpation. The ductus deferens is a firm structure that runs medially along the spermatic cord and is approximately 2–3 mm in diameter. Once identified, the tunica vaginalis was carefully incised, utilizing extreme caution so as not to damage the cremaster muscle or pampiniform plexus which could result in excessive hemorrhage. After the tunica vaginalis was incised, the ductus deferens was isolated (Figure 4). Two ligatures were placed approximately 3-5 mm apart using absorbable suture (chrome catgut No. 0) (Gill, 1995; Morgan and Dawson, 2008) [2, 6]. The ductus deferens was removed between the two ligatures. The skin, subcutaneous tissue, muscular layer and mucosa were routinely closed. The skin was closed with a cruciate pattern using nonabsorbable (silk suture No. 0) suture (Figure 5), removed seven days later. Antibiotics were administered to prevent any postoperative infection.

3. Discussion

Proper animal selection is an important aspect of teaser preparation. The ideal bull should be moderately sized (ideally less than 272 kg), of mild temperament but of a strong libido, and

free of transmissible diseases (Morgan and Dawson, 2008) [6]. All the five calves were between 80-100 kg weight, clinically healthy and sexually active. This surgical technique greatly reduces bleeding because there is limited surgical intervention, for this reason it can be performed at any age without risking increased blood loss, as may occur in the case of more complex interventions. It reduces the risk of bleeding when performing at younger ages because the vascularity and the caliber of the blood vessels are lower, but the previous test of the libido will have more uncertain results when it is done at ages less than 12 months, because over time the activity of riding varies (Katz and Price, 1986) [5].

Speed of surgery is important to reduce stress, which produces a increased susceptibility to infections (González, 2000) [3], in addition the use of local anesthetic reduces the risk of anaesthetic toxicity that would be incurred with additional application of sedatives, as needed in more complex techniques like the lateral deviation of the penis or sectioning of the dorsal penile ligament (Saldivia *et al.*, 1992; Silva *et al.*, 2002; Ronnie, 2015) [9, 10, 8], which is additionally accompanied by a previous 24-hour fast which increases the stressful state. The operative technique was performed easily and quickly and was executed in a short time with an average of 8 minutes per animal. Healing by first intention was observed in all the animals after 10 days without difficulties in urination, and they were in optimal conditions to perform the sexual activity efficiently after 30 days. It is recommended to wait 30 days prior to using the bull as a teaser animal, since sperm can be present in the reproductive tract up to 30 days postoperatively (Gill, 1995; Morgan and Dawson, 2008) [2].

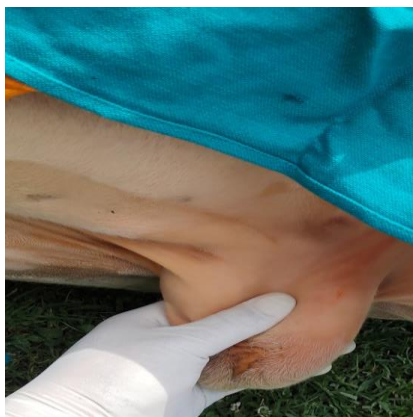


Fig 1: Preparation of the site



Fig 2: Skin incision

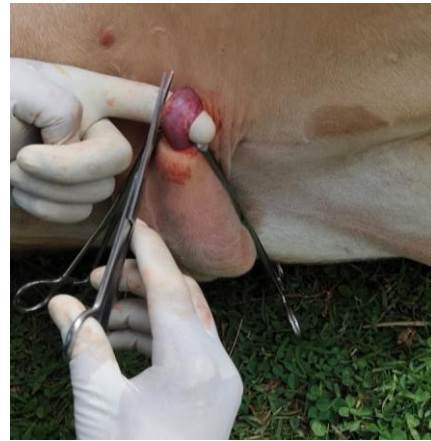


Fig 3: Isolation of spermatic cord



Fig 4: Isolation of ductus deferens



Fig 5: Skin Suturing

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