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A modified semi-closed castration technique in 15 horses

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Castration is one of the most common surgical procedures in the horse. Although considered a routinary procedure, surgical complications constitute the most common cause of malpractice claims against equine veterinarians. Surgical removal of the testis can be performed using a open or closed castration as reported in literature. A modification of the closed technique called semi-closed or half-closed technique allows the surgeon to inspect the vaginal cavity, to place proper ligatures on the vascular bundle without excessive surrounding tissue, and to emasculate the vascular bundle alone. [1-2] The drawback of this technique is that requires significant manipulation of the structures involved and in case of inguino-scrotal hernia, accidental puncture of the herniated bowel may occur.

The aim of this study is to present a modification of the semi-closed technique that allows the surgeon to benefit from the closure of the parietal tunic of the closed technique and benefit from the possibility of placing proper ligature on the vascular bundle of the open technique, without risk of accidental damage to other structures.

Fifteen horses were referred to the Department of Veterinary Sciences, University of Turin for elective castration. All animals underwent full clinical examination and complete blood profile characterization. After induction of anaesthesia the animals were placed in dorsal recumbency and the scrotum and the inguinal space prepared routinely for surgery. After skin incision, the common vaginal tunic was bluntly separated from the skin. A longitudinal incision through the tunic was made on the most ventral aspect of the testis. The testis and the funiculum were exteriorized as to

perform an open castration. The ligament of the tail of the epididymis was severed and the vascular bundle ligated and or emasculated as proximal as possible. The bundle was then checked for any leakage and repositioned inside the inguinal canal. The vaginal tunica was then brought distally and emasculated as proximally as possible, without comprising into the jaw of the emasculator also the vascular bundle already transected. The skin was closed with a modified intradermal suture. Intraoperative, postoperative complications were recorded and long term (6 months) follow up obtained by telephone.

All fifteen horses recovered uneventfully from anaesthesia, and no complications were recorded either intra- or post-operatively nor at 6 months telephone follow up.

The technique resulted subjectively easier to perform and required less tissue manipulation than the standard semi-closed technique.

Based on the results of this report the modified semi closed technique is proved to be a safe and effective method for castration in horses and could be used as an alternative to the conventional techniques.

Reference:

- [1] Kilcoyne I. Equine castration: A review of techniques, complications and their management. *Equine vet. Educ.* 2013; 25(9): 476-482
- [2] Schumacher J. Testis. In: *Equine Surgery*. JA Auer. 4th edition, Elsevier Saunders, St Louis, Missouri, USA. 2012; Pp. 805-840