

Dept. of Surgery,
Fac. of Vet. Med., Assiut University,
Head of Dept. Prof. Dr. M.H. El-Guindy.

EXTERNAL PUDIC ARTERY LIGATION IN GOATS (With 2 Figures)

By

F.M. MAKADY; A.S. SALEH and S.M. SELEIM
(Received at 5/6/1989)

ربط الشريان الإستحيائى الخارجى فى الماعز

فتحى مكادى ، أحمد صالح ، سامية سليم

تم ربط الشريان الإستحيائى الخارجى فى خمس عنزات ذات ضرع طبيعى وخمسة عنزات أخرى بها غنغرينا فى نصف الضرع . قد لاحظ الباحثون ضمور فى الضرع فى سبعة عنزات (ثلاثة ذات الضرع الطبيعى وأربعة ذات الضرع الغنغرينى) بعد إسبوع لإسبوعين من وقت ربط الشريان . وعلى ذلك لا يمكن الإعتماد على ربط الشريان الإستحيائى الخارجى كطريقة بديلة للإستئصال الجراحي للضرع فى الماعز .

SUMMARY

External pudic artery was ligated in five adult she-goats with normal lactating udder and in another five with unilateral gangrenous mastitis. One to two weeks after ligation, atrophy was observed in seven goats (three with normal udder and four with unilateral gangrenous udder). Ligation of the external pudic artery can not be recommended as an alternative technique for surgical mastectomy in goats.

INTRODUCTION

The most common indications for mastectomy in goats are chronic and gangrenous mastitis (KHAMIS and SALEH, 1962; NIGAM and TAYGI, 1973 and KEER and WALLACE, 1978).

JENNINGS (1984) and HORNEY (1985) reported that amputation of the udder is a radical and high risk procedure and a better alternative is the use of ligation of the external pudic artery.

Anatomically each half of the goats udder is supplied by the external pudic artery. This vessel emerges from the inguinal ring and divides into a cranial and a caudal branch. The caudal mammary artery may anastomose with the perineal artery the branch of the internal pudic artery. Each half of the udder is drained by a circular venous plexus. The major veins arising from this plexus are the subcutaneous abdominal vein, the external pudic vein and the perineal vein (NICKEL, SCHUMMER and SEIFERLE, 1981).

F.M. MAKADY *et al.*

The aim of the present study is to evaluate the effect of external pudic artery ligation on normal and gangrenous udder in goats.

MATERIAL and METHODS

The external pudic artery was ligated in five adult she-goats with lactating normal udder in addition to ligation of the same artery on the affected side in another five goats with unilateral gangrenous mastitis. Each animal was tranquilized and anaesthetized with i.m. injection of Rompun (Bayer) in a dose rate of 0.05 mg/Kg. b.wt. The surgical site was clipped and prepared for routine aseptic surgery. Restraint was in lateral recumbency with the upper most leg elevated.

An incision was made between the inguinal ring and the base of the right or left half. The lateral suspensory ligament of the udder was followed proximally toward the ring by blunt dissection between the skin and suspensory ligament. The pulsation of the external pudic artery was identified through the suspensory ligament and the latter was opened directly over the pulsating area of the artery. The artery was bluntly isolated and doubly ligated. Routine closure of the skin wound was carried out. The sutures were removed 8 days post-operatively.

The changes in the size of the udder were clinically observed daily after the operation and gangrenous udder was subjected to amputation of teat and removal of necrotic tissues in some cases.

RESULTS

Atrophy of the mammary gland was observed clinically in three out of five goats with normal udder. The decrease in size of the udder started within one week after ligation of the external pudic artery. The glands appeared completely atrophied within 3 weeks (Fig. 1 A & B).

Ligation of the external pudic artery in the group of suffering from gangrenous mastitis resulted in atrophy of these glands in 4 out of 5 goats. Separation of the necrotic tissue from the main gland was clearly identified in the first few days after ligation (Fig. 2). Amputation of the teat was performed for draining the affected side and removal of the necrotic tissues were conducted without appearance of any evident haemorrhage.

DISCUSSION

Absence of atrophy in 2 goats of the first group and one goat of the second group indicated that there may be other sources of blood supply to the mammary gland. The perineal artery, the branch of internal pudic artery, which may anastomose with the caudal mammary artery, the branch of the external pudic artery (NICKEL, SCHUMMER and SEIFERLE, 1981) may be the cause of absence of atrophy in these cases.

The ligation of the external pudic artery was not a guarantee for complete atrophy of the gland and can not be recommended as an alternative technique for surgical mastectomy in goats.

REFERENCES

- Horney, E. (1985): Ligation of the external pudic artery. 13th. Annual Veterinary Surgical Forum.
- Jennings, B.P. (1984): The Practice of Large Animal Surgery. pp. 270-272. W.B. Saunders Company.
- Kerr, J.H. and Wallace, E.C. (1978): Mastectomy in a goat. VM/SAC. September.
- Khamis, M.Y. and Saleh, M.S. (1972): Mastectomy as a radical treatment of mastitis in goat and sheep. Vet. Med. J., Cairo Univ., 20: 273-278.
- Nickel, R., Schummer, A. and Seiferle, E. (1981): The Anatomy of the Domestic Animals Volume 3 Verlag Paul Parly.
- Nigam, J.M. and Tyagi, R.P.S. (1973): Caprine teat surgery. Indian Vet. J. 50: 588-592.

Fig. (1 A & B): The right half appeared atrophied within three weeks after ligation of the external pudic artery.

Fig. (2): Separation of the necrotic tissue from the main gland was clearly identified in the first few days after ligation.



1 A



1 B



2