

قسم الجراحة والولادة
كلية الطب البيطري - جامعة الاسكندرية
رئيس القسم : أ.د/ محمد بهجت نصير

عملية استئصال الرحم والمبايض في الماعز
في مراحل مختلفة من الحمل

بهجت نصير ، مصطفى قاسم ، جمال العمر اوي

أجريت عملية استئصال الرحم والمبايض على عدد اثني عشر عنزة عشار في مراحل مختلفة من الحمل (مبكر ووسط ومتقدم) وذلك لدراسة الطريقة المناسبة واليسر لاجراء الجراحة للأغراض التجريبية .

واتضح من البحث والدراسة أن أنسب مكان لاجراء العملية هو الجانب الوحشي من وريد اللبن في الحمل المبكر والجانب الأنسي من وريد اللبن أو في الخط الوسطاني في الحمل المتقدم ، وذلك باستخدام التخدير الموضعي الخطي أو الحقن في الام الجافية مسبوقة بالرمبون .

MATERIAL and METHODS

Dept. of Surgery & Theriogenology,
Faculty of Vet. Med., Alexandria University,
Head of Dept. Prof. Dr. M.B. Noseir.

OVARIOHYSTERECTOMY IN GOATS AT DIFFERENT STAGES OF GESTATION

(With 6 Figures)

By

M.B. NOSEIR; M.M. KASSEM and G.A. EL-AMRAWY

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SUMMARY

Ovariohysterectomy was performed on twelve pregnant goats at different stages of gestation (early, mid and late) in order to obtain a more suitable technique for this operation for experimental purposes. The details of the anaesthesia, site, technique of operation and post operative care were discussed.

INTRODUCTION

Ovariohysterectomy can be done in goats in cases of subinvolution of placental sites with necrosis of uterine wall as in bitch (BURKE, 1977). It can also be performed as a method for treating all degenerative changes affecting the uterus (LACROIX, 1959). Goats are preferably used as experimental animals for studying the physiological alterations occurring during pregnancy in ruminants, because of its comparatively small size and short duration of gestation (SMITH, 1980).

Various trials were made to study the gravid genitalia of goats (MARTIN, 1904; TANEJO, 1959; BASU, *et al.* 1961; LYNDEST, 1968; TIWARI, *et al.* 1969; NAIR and RAJO, 1973), most of these studies were conducted on genital organs collected from slaughter house materials. Under such conditions many of the variable data about the exact sequence of the successive physiological changes occurring in the gravid genitalia of goats during the various stages of gestation were probably missed.

Recently ovariohysterectomy has been used to follow up sequence of changes in the physical and biochemical characteristics of the fetal fluids in pregnant goats during the different stages of gestation (NOSEIR, *et al.* 1986). The series of the physiological alterations in the uterine horns, fetal membranes and ovarian structures during early, mid and late gestation have been also studied (EL-AMRAWY, *et al.* 1985) using ovariohysterectomy as an operation for obtaining the required information, unfortunately, there is no available standard technique for ovariohysterectomy in goats. Hence, the present work was directed toward postulating a simple and safe technique for such operation during the various stages of gestation in goats and to study the probable complications.

MATERIAL and METHODS

Experimental Animals:

Twelve Egyptian Balady goats weighting 20-30 kg. in different stages of gestation and in good health condition were subjected to experimental ovariohysterectomy.

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Pre-operative technique was done by clipping, shaving, thorough washing by warm water and soap and disinfecting the site of operation with 70% ethyl alcohol.

Anaesthesia:

In some experimental animals Xylazine Hcl (Rompun) was given as pre-anaesthetic medication intramuscularly in a dose of 0.25 mg/kg. b.wt. Anaesthesia was completed by injection of 4.8 ml (1% procaine Hcl) epidurally, at the lumbo-sacral space (KENAWY, 1983). In another group of goats Rompun was used only as a general analgesic in a dose of 0.5 mg/kg. b.wt. intramuscularly. In addition linear infiltration anaesthesia was injected along the line of incision subcutaneously, intramuscularly and intraperitoneally using 1% procaine Hcl.

Site and Technique of operation:

Laparotomy was performed at the ventral abdominal wall caudal to the umbilicus till the udder lateral or medial to the milk vein or in the midline (WALSBY, 1952).

The pregnant goat was restrained in dorsal recumbency with the limbs fastened to the operating table. The hind legs were secured backward. After preparing the site of operation, the abdominal wall was incised (layer by layer) till the peritonium in length of about 15-20cm. After careful puncturing the peritonium with the scaopel, it was enlarged with a straight scissors.

The gravid uterine horns can be usually mobilized and drawn outside the lips of the abdominal wound. The left utro-ovarian blood vessels were ligated with chromic catgut No.1. The same previous method was performed in the right side. Another ligature was applied on the cervix, later on the whole blood vessels and the body of the uterus (cranial to the cervix) were ligated by chromic catgut. The uterus and ovaries were removed by a scissors cranial to the previous ligature. The abdominal viscera were reduced inside the abdominal cavity. The peritonium and the transverse abdominal muscle were coapitated by simple continuous suture using chromic catgut. A second row of the same suture pattern was made to the apenurotic part of the internal and external oblique abdominal muscles. Finally the skin was closed by simple interrupted sutures, using sterile silk (Fig. I - VI).

Post-operative Care:

Some of the operated cases which suffered from exhusion were treated with fluid therapy using normal saline and glucose. The skin stitches were removed 7 - 10 days after operation.

RESULTS

In the present work, operated goats in the group up to two months pregnancy duration withstood ovariectomy and all animals survived, while the group of goats of mid stage of gestation, became slightly anaemic after the operation. Two animals in the late stage of pregnancy died suddenly just after operation.

The present results revealed that local infiltration anaesthesia at the site of operation or epidural injection with 1% procaine Hcl preceded by Rompun as pre-anaesthetic medication was enough for ovariectomy in goats. It was cleared that the site of operation lateral to the milk vein is a very suitable site for ovariectomy in early stage of gestation. In this stage, the exteriorization of the gravid uterine horn or horns was relatively very difficult more than in those of mid and late pregnancy.

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On the other hand laparotomy medial to the milk vein (paramedian) or at midline was more suitable and satisfactory for exteriorization of the gravid uterine horn or horns and ovaries in mid and late stages of gestation in goats.

DISCUSSION

Ovariohysterectomy in pregnant goats could be done lateral to the milk vein in early stages of gestation (2 months). This site was proved to be the best one, owing to the fact that exteriorization of both gravid uterine horns was comparatively easier than from the midline and paramedian abdominal incision. These results are nearly in agreement with those obtained by EL-GUINDY and EL-GHANNAM (1973) who advised left flank incision for exteriorization of the gravid uterine horns at two months pregnancy for hysterotomy in ewes. On the other hand, laparotomy medial to the milk vein (paramedian) or at the midline was more suitable and satisfactory for exteriorization of the gravid uterine horn or horns and ovaries in mid and late stages of pregnancy. These results are in agreement with those obtained by BADAWI, *et al.* (1970) and KNECHT (1981) who used midline and paramedian incisions for ovariohysterectomy in a bitch. The results of the present work are also in agreement with those mentioned by HARMAR and MOUNT (1951); KASSEM (1983); KRAEHENMANN (1961) and WALSBY (1952) who used paramedian incision for exteriorization of the gravid uterine horns in an easy manner, for caesarean section in small ruminants.

In the present study local infiltration anaesthesia at the site of operation or epidural injection with 1% procaine HCl, preceded by Rompun (0.25 mg/kg.b.wt.) proved to be enough and suitable for ovariohysterectomy in goats. These results are in agreement with those mentioned by BADAWI, *et al.* (1970) who performed this operation under the effect of epidural anaesthesia (procaine HCl) preceded by Combelen in the bitch. On the other hand, LETTOW (1955) and NOUH (1984) stated that epidural anaesthesia is not enough to perform ovariohysterectomy in a bitch, because the line of abdominal incision extended cranial to the umbilicus in the dog, but in goats, it does not reach the umbilicus due to topographical anatomical variation of the genitalia.

Pre-cervical technique for ovariohysterectomy in goats proved to be safe and more satisfactory, using chromic catgut for ligation of the utero-ovarian blood vessels. These results are in agreement with those obtained by LACROIX (1959); BADAWI, *et al.* (1970) and NOUH (1984) who used the same technique for ovariohysterectomy in the bitch with minimum degree of complications.

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Fig. (1)



Fig. (2)



Fig. (3)



Fig. (4)

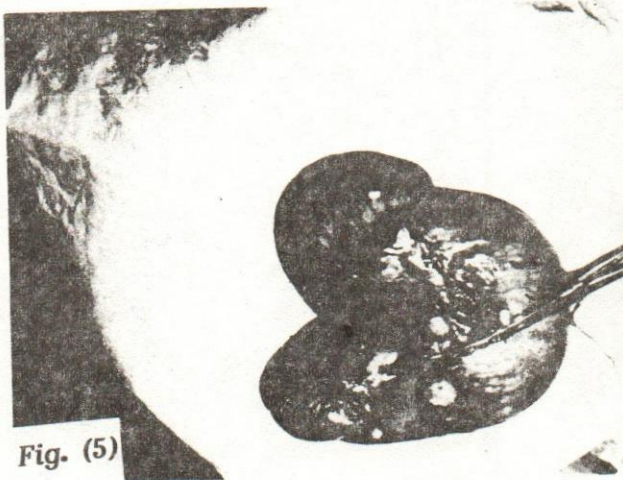


Fig. (5)



Fig. (6)