

التوسيع اليدوي لعنق الرحم لأحداث الولادة الصناعية

ع • بـ دوى

أجريت هذه التجربة على خمس بقرات محلية وخمس من أنات الجاموس وأوسع من الماعز ، وأثنون من النعاج • تمت فيها جميعا فترة الحمل وزاد نفى بعض هذه الحالات عن الموعد المقرر •

في هذه التجربة تم حقن الأبقار والجاموس بمخدر نصفى ، ومعدتها تم فتح عنق الرحم بواسطة ادخال أحد الاصابع به حتى آخره ، ثم جرى بعد ذلك ادخال أصبعين ، ثم ثلاثة الى أن تم ادخال اليد كلها • وهذا امكن استخراج الجنين بعد توسيع عنق الرحم تماما •

كما جرت هذه المحاولة على أبقار الفريزيان بعد ٣ - ٥ أيام من الولادة ، وذلك لاستخراج بقايا المشيمة المحتملة •

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ARTIFICIAL INDUCTION OF LABOUR IN RUMINANTS
BY MANUAL WIDENING OF THE CERVIX

By

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SUMMARY

Manual dilation of the os uteri was used successfully as a simple technique under epidural anaesthesia for induction of labour in 5 cows, 5 buffalo-cows and heifers, 4 goats and 2 ewes. It has been also used for widening the os uteri in 4 Fresian cows 3 - 5 days after parturition.

INTRODUCTION

Interruption of pregnancy in the term cow with the objective of obtaining a life calf is not always successful. There may be a good medical reason for terminating pregnancy shortly before anticipated parturition. Holm (1967) stated that administration of oxytocin will not induce parturition in case of prolonged pregnancy of cattle.

Parturition was induced by i/m injection of dexamethazone in 19 out of 22 cows 235 - 280 days pregnant by ADMAS (1969). HANSEN and CHRISTIANSEN (1971) used 20 mg of dexamethazone in 16 cows at premature, full term and prolonged pregnancy, 10 of these responded to treatment.

MADKOUR, SHITATA, HANIFA MOURSI and EID (1974) and SHIHATA, HANIFA MOURSI, MADKOUR, EIL and ABUL-FADIE (1974) used the same drug successfully in buffaloes 3 weeks prior to the expected date of parturition.

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FICARELLI, VEZZANI and BALLARINI (1970) used Flumetazone (10 mg) for II cows, over 260 day pregnant, for emergency termination of pregnancy.

HINDSON, SHAFILD and TURNER (1967) reported that a single dose of 20 mg stelboesterol was injected in II4 ewes, 4 of these developed a ring womb like conditions, and the cervix could be dilated manually. Hard and soft cervical rings were distinguished by MATHER and BARKER (1965) in goats. They stated that the soft ones could be dilated manually while the hard ones were dilated manually after injection of 7 - 8 ml "proquamizine fumerate" (smooth muscle relaxant). HINDSON and TURNER (1962) stated that the same drug could be used also in case of ring womb in ovine.

BROWNLIE (1952) using epidural anaesthesia in ewes could manually dilate the os uteri 20 - 45 minutes after injection of anaesthesia, however, a shorter time of 10 - 20 minutes was reported by BLACKMORE (1958) in ewes.

The present work aimed to study the possibility of using manual dilation of the os uteri in cows, buffaloes, sheep and goat as a simple method for terminating pregnancy.

MATERIAL AND METHOD

5 buffalo cows and heifers, 5 native cows, 2 ewes and 4 female goats owned by Egyptian farmers, were studied in the present work. Besides 4 Freisian cows 3 - 5 day of parturition suffering from retained placenta and the os uteri admitting the passage of 3 fingers only were tried. Two buffalo-cows and one heifer were tried after prlonged gestation of 13 months, the fourth one at the end of 12 months and the fifth at full term (10 I/2 month).

All the native cows with the exception of one showing slight prolonged gestation of 10 months were at full term.

Concerning sheep and goats, all of them were at full term but showing weak or no birth pain.

General Technique:

For cattle and buffaloes 12-15 Tutocain HCl 2% (Bayer) was injected between the 1st and 2nd coccygeal vertebrae, then 10 - 15 minutes later, the cleanly washed hand was introduced inside the vagina. Beginning with the index finger, lubricated by terramycin ointment the mucous plug, if present, was removed. The finger was introduced after-wards by gentle rotatory movement inside the cervical canal where further rotation was performed. Both the middle finger and index tried after-wards until they completely passed through the cervical canal and then began to be aperted from each other while rotating inside the cervix.

An additional finger was tried until all the hand was introduced inside the uterus.

Once the hand passed the cervix dilation was tried from inside outwards until the cervix was completely dilated. The faetal sac was then brought inside the cervical canal to maintain its widening and furthermore, to the vagina where it was incised. The faetus after being in the proper position was gently pulled to the outside.

In sheep and goat dilation was performed as in cattle and buffalo using no anaesthesia.

Freisian cows (3 - 5 days after parturition) were manipulated without anaesthesia until the os admitted the passage of the hand together with parts of the placenta.

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RESULTS

Complete widening of the os was usually achieved within 10 - 15 minutes in cattle and buffaloes and 5 minutes in sheep and goat after introducing the index finger.

4 out of the 5 cows successfully gave birth of a living calves, while the 5th one (prolonged gestation) the **fetus** died during parturition. Concerning the buffalo cows 2 out of the 4 showing prolonged gestation, and the calves died during the birth help due to their relatively large size, while other 3 were alive. However, only two buffalo cows showed retained placenta but they were treated successfully.

In sheep and goat no adverse effect was reflected neither on the foeti nor on the mother animals. In all cases no damage or tearing was observed in the genitalia (uterus, cervix or vagina) of the mother animal.

DISCUSSION

It would appear that many cases of undilated cervix are due to lack of pressure normally exerted by the foetus and **membranes** on the cervix (BLACKMORE, 1958). In the present work the insertion of the finger and furthermore, the hand resulted in an increase in widening of the cervix. However, further increase was obtained on opening the hand inside the uterus and applying this pressure from inside outwards simulating that of the foetal fluids and membranes.

In the present work epidural anaesthesia aided in relaxation of the cervical muscles even in the presence of hard cervical rings reported by MATHER and BARKER (1958) and facilitated its widening. At the same time it aided in minimizing the risk of struggle of the animal during the birth aid.

Closure of the cervix may be due to a nervous condition as far as BROWNLIE (1952) found no histological abnormality in the cervix, and the more injection of anaesthetic or smooth muscle relaxant could aid in abolishing the spasms in the cervical muscles.

A question arises here, is it an allergic or spasmodic contraction of the os uteri and the mer injection of tranquilizer or a smooth muscle relaxant made the cervix easily dilated manually, or it is due to atony of uterine contractions as far as it could be dilated during the purperal stage and without epidural anaesthesia in sheep and goat. The later opinion is supported by the findings of SHIHATA et al. (1974) that Dexamethazone elicit a highly significant rise in total urinary estrogen elimination which was maintained till the time of delivery. This conditions helped in achieving a state of estrogen dominance and priming the uterus contributing to the initiation of labour.

A lower incidence of retained placenta (40% in buffaloes and 20% in total cows and buffaloes) than that 50% reported by MADKOUR et al.: (1974), at the same time, no cases of metritis was recorded in the present work.

However, such a method can be used only when we are sure for the size of the new born in relation to the mother animal, as far as those large foeti had died during extraction and their death may be attributed to suffocation.

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