INDUCTION OF ABORTION IN IRAQI GOATS USING BROMOCRIPTINE

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ABSTRACT

Twenty pregnant goats at gestation period ranged from 100 – 130 days were used in this study and divided in to four groups according to duration of gestation period. G (A) = 100 – 110 days, G (B) = 111 – 120 days, G (C) = 121 – 130 days. All of the goats were injected with a single dose of 2.5 mg / kg B.W. Bromocriptine I.M. The fourth group also 5 goats G (D) = 120 – 130 days were used as control & given 2 ml distal water I.M.

Results showed that 80% of G (A) aborted after 5.12 ± 1.74 days, 60% of G (B) aborted after 4.92 ± 1.15 days and 60% of G (C) aborted after 4.97 ± 1.15 days of injection. In addition all the aborted goats showed complications represented by retention of fetal membranes and subsequent uterine infection compared to controls which showed neither abortion nor complications.

INTRODUCTION

Induction of abortion is occasionally used in small ruminants but it can be considered as an emergency method to save the life of the dam particularly in cases of pregnancy toxemia (1). Bromocriptine is an ergotamine derivative alkaloid (2) and it has a vasoconstrictor effect and therefore cause abortion in human in high doses (3) and they suggested that the toxicity on uterus from spoiled grain with ergot, a marked uterine contraction may be produced, the uterus becomes progressively more sensitive to ergot alkaloid during pregnancy. In another study, it has been suggested that bromocriptine has no effect on uterine contraction (4). Drugs and hormones were used by several authors to induce abortion in different species (5). But bromocriptine has not been tried before in these respect.
particularly in goats thus we planned to investigate the effect of bromocriptine in induction of abortion in pregnant many goats.

MATERIALS AND METHODS

Twenty pregnant Iraqi goats between 3-5 years were used in this study and they divided in to four groups (5 goats in each group) according to their gestation period depending on their date of natural insemination.

Group A = 100-110 days gestation

Group B = 111-120 days gestation

Group C = 121-130 days gestation

All of the three groups were injected with a single dose of 2.5 mg / Kg B.W bromocriptine I.M. The forth group (Group D) = 120-130 days were used as controls and given a single injection of 2 cc distal water I.M. Statistical analysis was conducted according to (6).

RESULTS

The results in the table below shows that in group A , 4 out of 5 goats aborted within 5.12 ± 1.74 days after injection and one of them suffered from dystocia. Subsequently all the aborted goats had retained fetal membranes and various degrees of uterine infection. In group B, 3 out 0f 5 aborted within 4.92 ± 1.15 days, Tow of them had retained fetal membranes and uterine infection. In group C, 3 out of 5 goats aborted within 4.97 ± 1.52 days, one of them suffered from dystocia and subsequent retention of fetal membrane and uterine infection.

Table represents the effect of bromocriptine on pregnant goats at different gestation period

<table>
<thead>
<tr>
<th>Groups</th>
<th>Duration of Pregnancy (days)</th>
<th>Aborted goats (days)</th>
<th>Duration of Response (mean±SD)</th>
<th>Complications</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Dystocia</td>
</tr>
<tr>
<td>A</td>
<td>100-110</td>
<td>4/5 (80%) a</td>
<td>5.12±1.74 a</td>
<td>1</td>
</tr>
<tr>
<td>B</td>
<td>111-120</td>
<td>3/5 (60%) a</td>
<td>4.92±1.15 a</td>
<td>-</td>
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</tr>
<tr>
<td>C</td>
<td>121-130</td>
<td>3/5 (60%) a</td>
<td>4.97±1.52 a</td>
<td>1</td>
</tr>
<tr>
<td>D</td>
<td>120-130</td>
<td>-</td>
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</tbody>
</table>

Note: all the aborted fetuses were either delivered dead or they died shortly after abortion. In group D, the 5 goats of control delivered at their due time of parturition without assistance and complications.

**DISCUSSION**

The results of group A in the table represents 80% abortions which is relatively but unsignificantly higher than the percentage of abortion in the other tow groups, it could be related to the period of gestation in which bromocriptine was administered since bromocriptine can represents some deficiency in the maturation of granulose cells that is manifested by poor luteinization, for example inadequate development of LH or prolactine receptors (7). However the durations of response of bromocriptine in group A, B and C were close to each other (insignificant), although (8) suggested that the uterus becomes progressively more sensitive to ergot alkaloid during pregnancy. Retention of fetal membranes and subsequent uterine infection was recorded at 100% in group A and B and it was an expected sequilae since they are common complications of abortion (9). But in group C only one of the three goats which needed assistance during abortion showed retention of placenta and subsequent uterine infection, the reasonable explanation for such result is the individual variations and/or the good body or health condition of the other two aborted goats (10).

In group D the 5 goats delivered at their due time of parturition without complications, this may suggest that bromocriptine was the unique factor causing abortion in the previous groups.

**استحداث الاجهاض في الماعز العراقي باستخدام البروموكربتين**

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الخلاصة

استخدم في هذا البحث 20 معزة حامل وقسمت اعتماداً على طول فترة الحمل إلى أربعة مجتمعات متساوية، إذ كانت فترة الحمل في المجموعة (A) 100-110 يوماً وفي المجموعة (B) 111-120 يوماً وفي المجموعة (C) 121-130 يوماً.
121-130 يومًا اعتُدادًا على تاريخ التسديد. وقد حَلت جميع المعزات بجرعة واحدة من البروموكربتين 2.5 ملغم/كم بالعضل. وقد استخدمت 5 معزات أخرى حوامل (D) 120-130 يومًا كسيطرة بعد حقنها بـ2 مل ماء مقتر بالعضل.

لقد أظهرت النتائج حدوث إجهاض في 80% من المجموعة A بعد 5.12±1.74 يومًا من الحقن وإجهاض 60% من المجموعة B بعد 4.92±1.15 يومًا من الحقن وإجهاض 60% من المجموعة C بعد 4.97±1.50 يومًا من الحقن، إضافة لذلك فإن جميع المعزات المجففة قد عانت من مضاعفات تمثلت في احتباس الأغشية الجنينية ومن ثم التهابات رحمية بالمقارنة مع مجموعة السطرة التي لم يحدث فيها مضاعفات بعد الولادة الطبيعية.

REFERENCES