RETENTION OF FETAL MEMBRANES IN IRAQI BUFFALOES,
CLINICAL & THERAPEUTICAL STUDY

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ABSTRACT

This study was conducted on 74 Iraqi buffaloes suffered from retention of fetal membranes (RFM) after 8-12 hrs in Karbala province from 2010-2011, there were ranged from 3-7 years old. The affected animals were divided into four groups randomly according to the treatment regime .1\textsuperscript{st} group (18 buffaloes) treated manually , 2\textsuperscript{nd} group (22buffaloes) treated with oxytocin hormone 100 IU(10ml/IM) .While the 3\textsuperscript{rd} group (21 buffaloes) was treated with a single dose of estrumate 750µg (3ml /IM) .The 4\textsuperscript{th} group (13 buffaloes) was treated with a single dose of estradiol benzoate (15mg/IM) and all groups were treated with a single dose of oxytetracycline 20% (20ml/IM).The response for different treatment regimes were 100% ,77% ,76.19% and 76.92% for groups respectively. The manual removal treatment gives a superior significant difference (P<0.01) from other hormonal treatments and the second group recorded a better percentage of drops of fetal membranes compared with the 3\textsuperscript{rd} and 4\textsuperscript{th} group. The manually treated animals were superior to other group related to first postpartum estrus, the number of services per conception and the days open measurements.

We concluded that the manual treatment still an important method of treatment, this fact depends on the reproductive parameters. Also we concluded that the hormonal treatment is a good method and gives appositive result reaches to 80% response.

INTRODUCTION

Buffalo is one of the most important animal to many farmers in Iraq for its productivity of high fat content milk, meat, hide, manure and even as a draft power and transportation. They call it the" black gold". Buffalo is considered a low reproductive efficiency animal as it achieves long calving intervals(1).Retention of fetal membranes is one of the most common conditions occurring in animals after parturition. It is observed mainly in cows and buffaloes only (2). The main causes of RFM are nutritional, physiological, mechanical and pathological (3, 4).The prognosis indicated that mortality rate should not
exceed 1-2% in uncomplicated cases (5). The effect of RFM includes delay ovulation, endometritis and increase number of inseminations and the open days (6, 7). Different methods of treatment is applied to include manual removal and hormonal (6, 8). The aims of study were to evaluate different treatments upon retention of fetal membranes and the reproductive efficiency criteria for the treated animals were number of response animals, services per conception and days open.

**MATERIAL & METHOD**

The study was conducted on 74 cow buffaloes between 3-7 years old in Karbala province, these animals suffered from retention of fetal membranes (RFM) after 12hrs, during the period from 2010-2011. These animals were divided randomly into four groups, 1st group included 18 buffaloes treated by manual removal according to (3, 7) after 24hrs post partum, 2nd group (22 buffaloes) treated with oxytocin*¹ 100IU /IM of single dose after 24hrs post partum, 3rd group (21 buffaloes) treated with single dose of estrumate*² 750µg /IM after 24hrs post partum and 4th group included 13 cow buffaloes treated with estradiol benzoate*³ 15mg /IM in a single dose after 24hrs post partum. All animals of each group have been injected with 4gm in a single dose of 20% oxytetracycline*⁴ (20ml) directly after treatment. Response of animals and duration from treatment till the expulsion of fetal membranes was recorded. As well as we recorded the first postpartum estrus, number of services per conception and days open. Statistical analysis include mean, standard error, Chi-square and F-test were used and conducted according to (9).

**RESULTS**

The result were shown in table -1- represented the type of treatment and response to the treatment that the percentage of respondents buffaloes were 100%, 77.27%, 76.19% and 76.92% in the 1st, 2nd, 3rd and 4th groups respectively, while the duration of treatment till the fetal membranes expulsion was directly, 2.36±0.25days, 4.34±0.81days and 3.96±0.3days in the 1st, 2nd, 3rd and 4th groups respectively. Table -2- showed the first postpartum estrus, number of services per conception and days open. We recorded significant differences (P<0.01) in reproductive parameters in first post partum estrus in 1st group compared with 2nd, 3rd and 4th groups but no significant differences in the number of services per conception between groups. While the days open was recorded significant differences (P<0.01) between 1st group superior than the other groups.

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*¹*Intertocin® vial contains 100ml /each ml contain 10IU oxytocin /Intervet – Holland.
*²*Estrumate® synthetic prostaglandin /Schering Plough Animal Health – Germany.
*³*Estradiol benzoate vial 10ml /each ml contain 5mg /Intervet – Holland.
*⁴*Remacycline L.A.® vial 100ml /each ml contain 20 gm oxytetracycline /COOPH VET–cedex –France.
Table-1- showed Different methods of treatment, response, and duration of response in Iraqi buffaloes.

<table>
<thead>
<tr>
<th>Group</th>
<th>No. of animals</th>
<th>Type of treatment</th>
<th>Animal response No.</th>
<th>Animal response %</th>
<th>Duration Days M±SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>18</td>
<td>Manual removal</td>
<td>18</td>
<td>100% (a)</td>
<td>--------</td>
</tr>
<tr>
<td>G2</td>
<td>22</td>
<td>Oxytocin 100 I.U/I.M</td>
<td>17</td>
<td>77.27% (b)</td>
<td>2.36 ±0.25 (a)</td>
</tr>
<tr>
<td>G3</td>
<td>21</td>
<td>Estrumate 750µg/ I.M</td>
<td>16</td>
<td>76.19% (b)</td>
<td>4.34 ±0.81 (b)</td>
</tr>
<tr>
<td>G4</td>
<td>13</td>
<td>Estradiol Benzoate 15mg/I.M</td>
<td>10</td>
<td>76.92% (b)</td>
<td>3.96±0.31 (b)</td>
</tr>
<tr>
<td>Total</td>
<td>74</td>
<td>-----------------------</td>
<td>61</td>
<td>82.43% (b)</td>
<td>--------</td>
</tr>
</tbody>
</table>

**different letter means sig (P<0.01).

Table-2- First postpartum estrus, Number of services per-conception and days open in Iraqi buffaloes

<table>
<thead>
<tr>
<th>Type of Treatment</th>
<th>No. of animals</th>
<th>First postpartum estrus (Days) M±SE</th>
<th>No. of services per conception M±SE</th>
<th>Days open (Days) M±SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1 Manual removal</td>
<td>11</td>
<td>104.53±6.14 (a)</td>
<td>2.01 ±0.2 (a)</td>
<td>152.26±7.32(a)</td>
</tr>
<tr>
<td>G2 oxytocin</td>
<td>12</td>
<td>122.41±7.32 (b)</td>
<td>1.88±0.14 (a)</td>
<td>169.22±8.58 (b)</td>
</tr>
<tr>
<td>G3 estrumate</td>
<td>10</td>
<td>113.56±6.52 (C)</td>
<td>1.93±0.10 (a)</td>
<td>161.56±6.69 (b)</td>
</tr>
<tr>
<td>G4 Estradiol</td>
<td>8</td>
<td>118.34±5.46 (b)</td>
<td>1.79±0.17 (a)</td>
<td>164.23±7.36(b)</td>
</tr>
</tbody>
</table>

Different letters mean sig. P< 0.01

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DISCUSSION

The results in table -1- showed that the 1st group (manual removal) was best and recorded highly significantly (P<0.01) related with No. of responsive animal and duration from treatment till the expulsion of fetal membranes compared with 2nd, 3rd and 4th groups and these results were in agreement with 10 and 11. While the result was 82.43% in all groups and these findings reported by (10, 12, 13).

The first post partum estrus interval in all groups (G1, G2, G3 and G4) of buffaloes were present in table -2- which showed a significant difference between the groups but the 1st group was significantly superior (P<0.01) to all other groups and these results were in agreement with 10 and 11.

While the result was 82.43% in all groups and these findings reported by (10, 12, 13).

We concluded that the manual removal still an important method and gives a good result through the return of animals to their normal reproductive cycle, the number of services per conception and the number of days open compared with hormonal treatment.


