Induction of fertile estrus in Iraqi camel (camelus dromedarius) during seasonal anoestrus.

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Abstract.
This study was performed on 36 Iraqi she-camels aged between 5-8 years from Sept. 2016 to Apr. 2017 in Al-Najaf province, these animals divided into three equal groups (12 for each one ) randomly according to the type of treatments, 1st group treated with CIDR (1.38gm progesterone) intr-avaginaly for 10 days and 2000 I.U of PMSG /I.M injected withdrawal CIDR directly , 2nd group treated with CIDR for 14 days + 2000 I.U PMSG /I.M while 3rd group without treatment and represented the control group. The results in this study showed superior significantly (p<0.01) in 2nd group related with animals response compared with 1st and 3rd group as well as significantly between 1st and 3rd group, while the duration of response was recorded highly significantly (p<0.01)for the treated groups (1st&2nd) compared with control group(3rd) . But the number of services per conception which recorded non significantly (p<0.01) between all groups, while the pregnancy rate was recorded 100%, 90% and 100% in 1st , 2nd and 3rd groups respectively with highly significant (p<0.01) related with 1st and 3rd compared with 2nd group. Finally the days open recorded 94.13±7.01 , 97.24±6.78 and 153.57±12.64 in 1st, 2nd and 3rd groups respectively with highly significant for 1st and 2nd compared with 3rd group. In conclusion in this study that they used hormonal treatments (CIDR +PMSG ) for induction of fertile estrus was safe and effect for increasing pregnancy rate and reduction days open.

Key words : CIDR, PMSG ,Pregnancy rate ,Iraqi camels.
المجموعة الثانية مقارنة مع المجموعتين الأولى والثالثة إضافة إلى وجود فرق إحصائي مهم بين المجموعتين الأولى والثالثة أما ما يخص فترة الاستجابة فقد تبين وجود فرق إحصائي بمستوى (p<0.01) لصالح المجموعتين الأولى والثانية مقارنة مع مجموعة السيطرة أما عدد التلقيحات اللازمة لحدوث الإخصاب فلم يظهر فرق إحصائي في المجموعتين الثلاثين 01%, 01% و 01% في المجموعتين الأولى والثانية والثالثة على التوالي مع فرق إحصائي مهم (p<0.01) لصالح المجموعة الأخيرة مقارنة مع المجموعة الثانية وأخيراً فقد تم تسجيل فترة الأيام المفتوحة بفارق إحصائي مهم (p<0.01) في المجموعتين الأولى والثانية مقارنة مع مجموعة السيطرة (المجموعة الثالثة) نستنتج من هذه الدراسة بأن استخدام المعاملات الهرمونية التي تظم السايدر ومصل الفرس الحامل مؤثرة وأكثر أمان في زيادة نسبة الحمل واختزال فترة الأيام المفتوحة

كلمات المفتاحية: سايدر، هرمون مصل الفرس الحامل، نسبة الحمل، النوق العراقية

Introduction

Generally the breeding activity of the one humped camel increase during the rain periods, low temperature and better grazing conditions (1). Due to the broad variation in time of estrous exhibition between females dromedaries within the breeding season, this requires intense efforts from the camel owner to observe his herd, which is not the case in practice. Camels are seasonally polyestrous animals (2&3). The estrous cycle in the male camel differs from that observed in other female farm animals, it is characterized in the female camel by the absence of the luteal phase hence, there are only three phases within the estrous cycle, namely follicular growth, the existence of mature follicles on ovaries (estrus period), and follicular atresia (4&5). These three phases last 22-28 days. The estrous period is quite long, which sometimes lasts up to 7 days, the estrous signs in a female camel are characterized by the sitting of the camel to be mounted by other females, frequent salivation, restlessness, swelling of the vulva, vaginal mucous discharge, frequent urination especially when the male comes close to her, and finally the acceptance of mating by the male(6&7). Many hormonal regimes used for estrous induction include progesterone treatment (PRID, CIDR and injection 50-100mg/I.M) with PMSG injection by many authors(8,9&10). The pregnancy rate recorded 33% - 80% when used PRID +PMSG compared with 80%-95% when used CIDR +PMSG(11,12&13). The purpose of this study to induction of fertile estrus in Iraqi she- camels (camelus dromedarius ) by using CIDR +PMSG during seasonal anestrus.

Materials and method :

This study conducted on 36 Iraqi camels (camelus dromedarius), aged between 5-8 years from Sept -2016 to April-2017 in Al- najaf province, these animals divided into three equal groups(12 for each one)randomly according the type of treatments, 1st group treated with CIDR (1.38g progesterone ) intravaginaly for 10 days and I.U of PMSG /I.M injected withdrawal CIDR directly, 2nd group treated with CIDR for 14 days + 2000 I.U PMSG /I.M while 3rd group without treatment and represented the control group .Many reproduction parameters include animals response, duration of response, services / conception , pregnancy rate and days open was depended on for estimation the important using hormonal treatment.

Statistics:

For statistical analysis of the data in this study depended on many statistical measurements include mean, standard error, chi-square, F-test and analysis of variance (p < 0.01) according to Steel and Torrie (14).

Results and discussion :

The results in table -1 showed superior significantly (p<0.01) in 2nd group related with animal response compared with 1st and 3rd group as well as significantly between 1st and 3rd group, while the duration of response was recorded highly significantly (p<0.01)for...
the treated groups (1st & 2nd) compared with control group (3rd). These results were agreement with many author’s (11,15,16,17&18) which recorded 80%, 73-84%, 83%, 100% and results des agree with result of (17) is found 100%, and different with (18) 67% respectively. The duration of response in this study 5.63 ± 1.06, 4.94 ± 1.17 and 48.56 ± 3.52 days in 1st, 2nd and 3rd group respectively, these results agree with Elis et al (17) which recorded 4-5 days by using hormonal treatment and similar trends were recorded by (19) which found 3-5 days as well as (20) but the results different with (11) which recorded 1-2 days (21).

But the outcomes in table-2- was recorded the number of services per conception which recorded non significantly (p<0.01) between all groups, these results agreement with (22) which recorded 1.4 - 1.9 number of services/conception (23&24), while Mounier and Borani (25) recorded 2-2.9 services per conception. While the pregnancy rate was recorded 100%, 90% and 100% in 1st, 2nd and 3rd groups respectively with significantly (p<0.01) related with 1st and 3rd compared with 2nd group. The pregnancy rate of this study agree with result of (26) which found more than 85% and these results are within the ranges previously reported by (27) which recorded 95%. Finally the days open recorded 94.13±7.01, 97.24±6.78 and 153.57±12.64 days in 1st, 2nd and 3rd group respectively with highly significant for 1st and 2nd compared with 3rd group and these finding agreement with (23) which about 86-100 days and similar with (25). In conclusion in this study was included they used of hormonal treatment (CIDR + PMSG) was very effect for increased animal response and reduction the days open in seasonal Iraqi camels (camelus dromedarius).

Table-1 - Different methods of treatment, animals response and duration of response in Iraqi camels (camelus dromedarius).

<table>
<thead>
<tr>
<th>Groups</th>
<th>No. of animals</th>
<th>Type of treatment</th>
<th>Animals response No</th>
<th>Animals response %</th>
<th>Duration of animals response (days) M±SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>12</td>
<td>CIDR (10 days)+2000 I.U PMSG/ I.M</td>
<td>9</td>
<td>75&lt;sub&gt;b&lt;/sub&gt;</td>
<td>5.63 ± 1.06&lt;sub&gt;a&lt;/sub&gt;</td>
</tr>
<tr>
<td>G2</td>
<td>12</td>
<td>CIDR (14 days)+2000 I.U PMSG/ I.M</td>
<td>10</td>
<td>83.3&lt;sub&gt;a&lt;/sub&gt;</td>
<td>4.94 ± 1.17&lt;sub&gt;a&lt;/sub&gt;</td>
</tr>
<tr>
<td>G3</td>
<td>12</td>
<td>Without treatment</td>
<td>8</td>
<td>66.6&lt;sub&gt;c&lt;/sub&gt;</td>
<td>48.56 ± 3.52&lt;sub&gt;b&lt;/sub&gt;</td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Different letters means sig . differences p < 0.01
Table -2- number of services /conception ,pregnancy rate and days open in Iraqi camels(camelus dromedarius).

<table>
<thead>
<tr>
<th>Group</th>
<th>No. of animals response</th>
<th>No. services conception</th>
<th>Pregnancy rate no.</th>
<th>Days open M ± SE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>G1</td>
<td>9</td>
<td>1.84 ± 0.12a</td>
<td>9</td>
<td>94.13±7.01a</td>
</tr>
<tr>
<td>G2</td>
<td>10</td>
<td>1.64 ± 0.18a</td>
<td>9</td>
<td>97.24±6.78a</td>
</tr>
<tr>
<td>G3</td>
<td>8</td>
<td>1.72 ± 0.13a</td>
<td>8</td>
<td>153.57±12.64b</td>
</tr>
<tr>
<td>Total</td>
<td>27</td>
<td>------------------------</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Treated animals
Control

Treated animals
Control

Different letters means sig , differences p< 0.01

References:
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