

IN THE NAME OF ALLAH, THE MOST GLORIOUS, THE MOST MERCIFUL

Dedication

To my parents and grands parents souls, and to mine and my family, in the Here- in and the Here- after, and to my late nephew, AbdoRrahman Mohd.Basha and uncles,

I dedicate this effort.....

May Allah accept it.

The Abstract

Twenty nine Nubian does were considered for estrus synchronization, and divided into 3 groups: G1 (n=9) treated with 50 IU of Oxytocin, G2 (n=10) treated with 100 IU oxytocin and G3 (n=10) as control group. Synchronies obtained were, G1 (50i.u-OT) 75%, G2 (100i.u-OT) %50% and G3 (Control) 40%. There were no significant difference, ($P > 0.05$), in estrus synchronies between the three groups under 50 and 100 IU oxytocin doses treatments against the non-treated control group.

In determining the effect of genetic differences on estrus synchronization with the $PGF2\alpha$ injections, two groups of Nubian (n=29) and Nilotic (n=19) does were considered. The synchronies percentages obtained were, the Nubian breed, 96.55% and the Nilotic breed, 78.95%. There were no significant difference, ($P > 0.05$), of the breed on estrus synchronization using ($PGF2\alpha$) injections.

In determining the effect of exogenous oxytocin on estrus synchronization in Nilotic does of Sudan, 16 does were considered for this experiment. They were divided into two equal groups, Ga, treated (50 IU.OT), and Gb, (Control). The percentages of synchronies obtained were, 75% for Ga, and 50% for Gb. There were no significant difference, ($P > 0.05$), in estrus synchronies between the two groups under 50 IU oxytocin treatment against the non-treated control group.

For determining conception rates, four groups of Nubian does, Ga (n=7) treated with 50 IU of oxytocin, with single insemination, Gb (n=7) treated with 50 IU, with double inseminations, Gc1 (n=7) control group with single

insemination, Gc2 (n=7), control group with double inseminations were considered. They were artificially inseminated with Saanen fresh semen after estrus synchronization with PGF2 α . the percentages of pregnancies considered were, Ga(50i.u.OT), 1 AI, 28.6 %, Gb (100 i.u.OT), 2 AIs, 14.3 %, Gc1 (Control), 1 AI, 28.6 % and Gc2 (Control), 2 AIs, 57.1 %.

There were no significant difference, (P >0.05), in numbers of pregnancies obtained under oxytocin treatments against the non-treated, or with the two inseminations against single insemination.

In an other experiment, two groups of Nilotic does, Ga (n=7) treated with 50 IU oxytocin and Gb (n=8) was the control group were considered for detecting the effect of exogenous oxytocin hormone on conception rate in Nilotic does. They were inseminated once after estrus synchronization by PGF2 α . The percentages of pregnancies obtained were, 71.43% for Ga (50 IU.OT) and 75% for Gb, (Control group). There were no significant difference, (P >0.05), in pregnancies happened under oxytocin treated group against the non-treated one.

Statistical analysis method used was χ^2 .

أثر حقن هرمون الأوكسيتوسين والبروستاغلاندين- ف2 ألفا على إستحداث الشبق

التزامنى ومعدل حدوث الحمل فى الماعز النوبى والنيلى السودانين

الخلاصة باللغة العربية

أعتمدت 29 أنثى من سلالة الماعز النوبى السودانى لتجربة إحداث الشبق المتزامن .وقد قسم القطيع إلى 3 مجموعات(م): 9، 10 و10 رأسا. حقننا الأولى والثانية ب50 و100 وحدة دولية من هرمون الأوكسيتوسين على التوالى. المجموعة الثالثة أعتمدت للتحكم.نسبة حالات الشبق المتحصلة كانت: 75%، 50% و40% للمجموعات الأولى والثانية ومجموعة التحكم على التوالى. بالتحليل الإحصائى(مربع كاي) لم توجد فروقات معنوية (ف<0.05) بينها. ولاختبار أثر السلالة على الإستجابة لعملية إحداث الشبق المتزامن بحقن هرمون البرستاغلاندين-ف2 ألفا، أعتمدت مجموعتين من إناث الماعز السودانى: (م=1 رأس نوبى)، (م=2 رأس نيلى). جاءت النسبة المئوية لحالات الشبق المحدث، 96.55% و 78.95% للنوبى والنيلى على التوالى. ولم توجد فروق إحصائية معنوية (ف<0.05) بينها. ولاختبار أثر حقن هرمون الأوكسيتوسين فى عملية إحداث تزامن الشبق فى الماعز النيلى، أختيرت (مجموعة=8 رأس) حيث حقنت بحدود 50 وحدة دولية من الهرمون، (ومجموعة=8 رأس) كمجموعة تحكم. كانت النسب المئوية من حالات الشبق المتحصل 75% و 50% على التوالى. لم توجد فروق إحصائية معنوية (ف<0.05) بينها، بل رغم من أن هناك فرق نسبة مقدرة (25%) لصالح المجموعة المعالجة. ولتحديد معدل حدوث الحمل تحت حقن هرمون الأوكسيتوسين، قسم عدد 28 رأس أنثى من سلالة الماعز النوبى السودانى إلى 4مجموعات متساوية. الأولى حقنت ب50 وحدة دولية من الهرمون ولقحت مرة واحدة، والثانية حقنت ب50 وحدة دولية عند كل تلقية حيث لقحت مرتين. الثالثة لقحت مرة واحدة بلا حقن، بينما لقحت الرابعة مرتين بلا حقن. أجرى التلقيح إصطناعيا بالسائل المنوى الطازج من سلالة السعانيين. لم يوضح التحليل

الإحصائية (مربع كاي) أى فروق إحصائية معنوية ($0.05 < F$) بين تلك المجموعات من حيث تأثير هرمون الأوكسيتوسين، كما لم يكن هناك أثر معنوى لعدد التلقيحات.

ولتحديد معدل حدوث الحمل تحت أثر حقن هرمون الأوكسيتوسين فى الماعز النيلية السودانى، قسمت مجموعتان إلى (م = 7 رأس) و (م = 8 رأس). حقنت المجموعة (أ) ب 50 وحدة دولية من الهرمون عند التلقيح، بينما أعتبرت (م ب) مجموعة تحكم. كلاهما لقيح مرة واحدة بعد إحداث عملية الشبق المتزامن بحقن هرمون البرستاقلاندين-ف2 ألفا.

أجرى التلقيح إصطناعيا بالسائل المنوى الطازج من سلالة السعانيين. النسب المئوية للحمل الحادث كانت 71.43% للمجموعة المعالجة، و75% لمجموعة التحكم. لم تكن هناك فروق إحصائية معنوية ($0.05 < F$) بين تلك المجموعتين من حيث تأثير هرمون الأوكسيتوسين على معدل إحداث الحمل.

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In The Name Of Allah The Most Glorious The Most Merciful

**Sudan University of Science and Technology
Colledge of Graduate Studies and Scientific Research**

**The Effect of Exogenous Oxytocin and Prostaglandin-F₂ α Hormones on
Estrus Synchronization and Conception Rate in Nubian and Nilotic
Goats of Sudan**

**أثر حقن هرمون الأوكسيتوسين والبروستاغلاندين- ف₂ ألفا على إستحداث الشبق التزامنى ومعدل
حدوث الحمل فى الماعز النوبى والنيلى السودانين**

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