

**CLINICAL AND THERAPEUTICAL STUDY ON REPEAT BREEDER IN IRAQI BUFFALOES
(BUBALUS BUBALIS)**

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Abstract:

The aim of this study for comparison between the effect of Lugol's Iodine 0.5% and oxytetracycline 10% on treatment of repeat breeders buffaloes, related with improvement of reproductive parameters. Twenty -one repeat breeders Iraqi buffaloes aged between 4-6 years during July 2021-May 2022 diagnosed clinically in Al-Fudaylia village, Baghdad province and divided randomly into three equal groups (7 buffaloes for each one). The 1st group treated with Lugol's Iodine 0.5% and the 2nd group treated with oxytetracycline 10%, both of them treated intrauterine (IU), while the 3rd group considered as control group (without treatment). The clinical findings improved that Lugol's Iodine was recorded significantly ($P<0.01$) in all reproductive parameters include animal's response, number of services/conception, pregnancy rate and days open compared with other groups. In conclusion of this study improved that the treatment of repeat breeders buffaloes by Lugol's Iodine was effective and safe as well as reduction of days open and increase pregnancy rate.

Keywords: Repeat Breeder, Buffaloes, Lugol's Iodine, and Oxytetracycline.

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Introduction:

Repeat breeder in animals include buffaloes is defined as any female that has not fertilize after 3 or more services related with normal cycle (Ahmed *et al.*, 2004 and Ahmed *et al.*, 2010). The common cause of uterine infection is the pathogenic factors affecting fertility of animals (Mahto *et al.*, 2006, Kumar *et al.*, 2011 and Noakes *et al.*, 2019). The cellular immune response of uterus could negatively be affected through many therapeutic programs such as intrauterine therapy include lugols iodine or antibiotic e.g., oxytetracycline used for treating postpartum problems in cows (Sah and Nakao, 2006, Robert and Walter, 2007 and Al-yasiri *et al.*, 2015). Also, recent studies have used different medical plants which represented as traditional medicine (Basri and Fan, 2005), but the support aim of this study to compare the effect of lugols iodine 0.5% and oxytetracycline 10% on repeat breeders buffaloes include many reproductive parameters (animal response, no. of services / conception, pregnancy rate and days open).

Materials and methods:

Twenty-one repeat breeders Iraqi buffaloes aged between 4-6 years diagnosed clinically during July 2021-May 2022 in Al-Fudaylia village, Baghdad province. The animals were divided into three equal groups (7 buffaloes for each) according to the type of treatment. The 1st group treated with 25-50 ml of Lugol's iodine 0.5% intrauterine I/u according to the size of uterus, but the 2nd group treated with 4gm of 10% oxytetracycline (40 ml mixed with 20 ml of distal water) intrauterine also, while the 3rd group considered as a control group (without treatment). All animals exposed to the bulls during the next cycle of treatment and this study includes many reproductive parameters (animal's response, duration of response, number of services / conception, pregnancy rate and days open). The statistical analysis of data depended on mean, standard error, Chi square and T-test according to (Steel and Torrie, 1986).

Results and Discussion:

The results in table-1 revealed not significantly differences between all groups and these results supported by many authors (Azawi *et al.*, 2008; Kumar *et al.*, 2011 and Al-yasiri *et al.*, 2015). The pregnancy rate in table-1- recorded 71.4%, 42.8% and 28.5% in G1, G2 and G3 respectively with superior significantly in G1 compared with other groups (G2 and G3) and these facts agreed with Ghanem *et al.* (2002); Vijayarajan and Sankar (2014) and Noakes *et al.* (2019). Finally, the days open which recorded highly significantly in G3 compared with G1 and G2 as well as G2 compared with G1 (Azawi *et al.*, 2008). In conclusions of this study, the use of lugols iodine had a good results for treatment of repeat breeders compared with oxytetracycline, in addition to the treatment by Lugol's iodine 0.5% is effective and safe in buffaloes.

Table-1- The type of treatments, animal's response, number of services/ conception, pregnancy rate and days open in repeat breeders Iraqi buffaloes.

	Reproductive parameters	1 st group 0.5% Lugol's iodine	2 nd group Oxytetracycline	3 rd group Without treatment
1-	Animals response	6/7 85.1% a	4/7 57.1% b	2/7 28.5% c
2-	No of services/ conception	1.07±0.02 a	1.11±0.03 a	1.20±0.00 a
3-	Pregnancy rate	5/4 71.4% a	3/7 42.8% b	2/7 28.5% c
4-	Days open	115.12±11.43 c	139.8±12.25 b	191.5±1.16 a

Different small letters mean sig. differences (P<0.01) among groups.

References:

- Ahmed, M.; Ahmed, N.; Akhtar, N. and Ali, S. (2004). Racing stress and conception rate in repeat breeding buffaloes and cows. *Pakistan. Vet. J.* 24(4): 184-186.
- Ahmed, W.M.; El-Kharawy, H.H.; Emtenan, H.M and Shalaby, S. A. (2010). Clinical perspective of repeat breeding syndrome in buffaloes. *J. Anim. Sci.:* 6(11): 661-666.
- Al-yasiri, E. A.; Alwan, A. F. and Al-Hamedawi, T. M. (2015). Comparative study of some intrauterine treatment regimes on bacterial causes of repeat breeders in Iraqi buffaloes. *Indian J. of Research.* 4(9): 188-190.
- Azawi, O. I.; Omran, S. N. and Hadad, J. J. (2008). A study on postpartum causes and treatment. *Rep. Dom. Anim.* 43: 556-565.
- Basri, D. F and Fan, S. H. (2005). The potential of aqueous and acetone extracts of galls of *Quercus infectoria* as antibacterial agents. *Indian J. Pharmacol.* 37(1): 26-29.
- Ghanem, M.; Shalaby, A.H.; Sharawy, S. and Saleh, N. (2002). Factors leading to endometritis in Egypt with special reference to reproductive performance of repeat breeders in dairy herds. *Theriogenology.* 73(9): 1220-1229.
- Kumar, R.; Kumar, D and Roy, B. (2011). Studies on repeat breeding of buffaloes. *Buffalo Bulletin.* 30(3): 177-179.
- Mahto, D.; Singh, M.P.; Singh, B. and Sinha, M.P. (2006). Efficacy of pre- and post-AI administration of sterile ceftriaxone sodium on conception rate in normal and repeat breeding crossbreed cattle. *Indian J. Anim. Reprod.* 27: 18-20.
- Noakes, D. E.; Parkinson, T. J. and England, G.C.W. (2019). *Veterinary Reproduction and Obstetrics.* 10th Ed. Elsevier Sci. 408-419.
- Robert, S. Y. and Walter, R. T. (2007). *Current therapy in large animal Theriogenology.* 2nd Ed. Saunders-Elsevier. 285-289.
- Sah, S. K. and Nakao, T. (2006). Characteristics of repeat breeding buffaloes in Nepal. *J. of Reprod. Dev.* 52(3): 335-341.
- Steel, R. G. and Torrie, J. H. (1986). *Principles and procedures of statistics. A biometrical approach.* Mc Graw-Hill.
- Warriach, H. M.; Ahmed, G. and Ahmed, I. (2008). Effect of antibiotic treatment on pregnancy rate of repeat breeding dairy crossbreed cows with subclinical uterine infection. *Pakistan. Vet. J.* 28(1): 40-42.