Estrus induction and Fertility response in true anestrus buffaloes using lugol's iodine

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Abstract

The present study was carried out to see the efficacy of lugol's iodine for the initiation of ovarian cyclicity in post-partum true anestrus buffaloes. Confirmation of true anestrus in 30 buffaloes was done by finding smooth ovaries at rectal examination, out of 30, 15 buffaloes was treated with Lugol's iodine (1:50) ratio @ 30ml I/U once only whereas, the remaining 15 buffaloes were serve as control for treated group and no treatment was given to such animals. The result for induction of estrus was 73.34 %(11/15) and the conception rate was 53.33% (8/15). This result shows that there are better possibilities of inducing ovarian cyclicity in functionally anestrus buffaloes and its cost effectiveness.
Keywords: smooth ovaries, buffaloes, true-anestrus, ovarian-cyclicity.

Introduction

Optimum reproductive efficiency is a pre-requisite for animal production. True anestrus is one of the major factors, which decrease the reproductive efficiency in buffaloes and increase economic losses to dairy industry. Anestrum means absence of estrum. Estrum is a period of sexual receptivity associated with certain cyclical changes in the reproductive system and manifested externally by behavioural alterations facilitating mating. Thus estrum forms the externally detectable first stage in the series of process involved in the process of reproduction.

Hence absence of the same causes total arrest of the process leading to production of young ones. Thus, the present study was planned to evaluate the effect of lugol's iodine in induction of estrus in post-partum true anestrus buffaloes.

Material and methods

The present study was conducted on 30 post-partum anestrus buffaloes aged between 4-12 yrs and not expressing estrus signs from more than 120 days post-partum. Confirmation of true anestrus was done on the basis of history and gynaeco-clinical examination of genitalia 2-3 times at an interval of one week by finding smooth ovaries without CL and no uterine pathology on rectal examination.

The 30 animals were divided into two groups g1 and g2, each group consist of 15 animals. The animals of g1 were treated with Lugol's iodine (1:50) @ 30ml I/U once only. Whereas the animals of g-2 were serve as control for g-1 and no treatment were given to such animals. After the treatment animals were regularly observed for signs of estrus with intensity on the basis of score card devised by Shrivastava (1997) and pregnancy was confirmed after two months by rectal examination.

All the animals housed in cemented sheds with optimum floor space and stall fed as per the standard schedule. The management being identical throughout the study.

Results and Discussion

Lugol's iodine treatment was found effective in buffaloes. Out of 15 treated buffaloes 11 (73.34%) exhibited estrus at an average post treatment interval of 7.54±2.03 days. While in control group no animal came in heat.

Various workers have reported varied response with lugol's iodine (porwal *et al.*,1976; Agarwal and Pandit,1991; Reddy et al ., 1994; Megahed *et al.*, 1995; Kendre and Bhosker,1996; Murugappa and Honnappagol 1997; Singh and Thakur 1999; Tapas *et al.*, 2000; Tomar 2004; and Rathore 2004).

Our results are in close agreement with the findings of Kendre and Bhosker (1996) and Tomar (2004) who reported 80% and 66.67% induction of estrus within 5 to 10 days. However, comparatively low percentage were reported by other workers (45%: Murugappa and Honnappagol, 1997; 46.66%: Porwal *et al.*, 1976; 50% Reddy *et al.*, 1994; and 50%: Rathore

2004) with the response occurring between 8-30 days. However some workers reported higher percentage of estrus induction in present study (91.7% : Megahed *et al.*, 1995 and 84.6%Tapas *et al.*, 2000).

The percentage of animals showing intense, moderate and weak estrus was 63.63 (7/11), 36.36 (4/11) and 00.00 (0/11) respectively. The action of lugol's iodine in induction of estrus is thought to be due to either stimulatory effect on the hypothalamus or by the release of uterine luteolytic factor acting via utero-ovarian and utero-pituitary ovarian pathway, and also by its irritating action on endometrium.

In our study all the 11 animals, which came into induced estrus, were inseminated, only 53.33% (8/15) animal conceived on estrus. Slightly higher 70% (7/10) conception rate was reported by Reddy *et al.*, (1994).

It was concluded that lugol's iodine can be effectively used for induction of estrus in true anestrus buffaloes with reasonably good conception rate and cost effectiveness.

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