DIAGNOSIS OF SUBOESTRUS IN BUFFALO AND ITS TREATMENT WITH CLOPROSTENOL AND TIMED INSEMINATION

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SUMMARY

Based on rectal examination and progesterone level in milk, a trial was made to identify the suboestrous animals in 42 anoestrous buffaloes. Results of rectal examination were in agreement with milk progesterone level in 62% of the animals examined. Depending on milk progesterone level, 57% of the animals were diagnosed as anoestrus and 43% as suboestrus. Suboestrous animals were subjected to a double dose schedule of prostaglandin F_2 alfa analogue 10 days apart. Regardless of the appearance of the oestrous signs, animals were artificially inseminated 48 h after the second injection of prostaglandin F_2 alfa. A second insemination was performed 24 h after the first. Rectal examination 60-90 days after insemination revealed pregnancy rate of 83%.

INTRODUCTION

Poor reproductive rate is one of the main constraints to high biological and economical performance of farm animals. Suboestrus constitutes the single largest factor responsible for reproductive inefficiency in buffaloes (Dhaliwal et al., 1987). Shah et al., (1990) estimated that 73% of the cases of anoestrus were suboestrus. The presence of embedded corpora lutea in 40% of cyclic buffaloes (El-Wishy et al., 1971) poses a major difficulty in diagnosing cyclic individuals (Jainudeen et al., 1983).

The purpose of the present study was to compare rectal examination and milk progesterone for identifying suboestrus and to determine the role of cloprostenol administration and fixed time insemination in the management of such cases.

MATERIAL AND METHODS

The study included 42 multiparous buffaloes in an experimental herd of the Faculty of Agriculture, Cairo University, that did not show oestrus over a period of 90-150 days after normal parturition. Calves were separated from their dams one week after birth, then the dams were milked twice daily at 6 a.m. and 3 p.m. All these buffaloes were housed in a shaded open yard and received a formulated ration and green fodder. Ovarian activity was monitored by rectal palpation of the ovaries and by quantifying the progesterone in milk samples. Three whole milk samples. each of 10 ml were collected in screw capped bottles 3 or 4 day intervals. A 100 mg sodium azide tablet (Merck, Art 6687 Darmstadt Germany) was used as preservative and the samples were stored at -20°C until assay was performed. Preparation of all reagents and procedures for progesterone estimation were performed as described by Dobeli (1980). Suboestrus was diagnosed when a corpus luteum was palpated and or a progesterone level of ≥ 5 ng/ml was present in at least one milk sample, otherwise the animal was considered to be in true anoestrus, A schedule of double i.m injection of 500 µg clo-

prostenol (Estrumate I.C.I.) at 10 days apart was carried out on subestrous animals. Regardless of the appearance of oestrous signs, the animals were artificially inseminated 48 hours after the second injection of Estrumate. A second insemination was done 24 hrs after the first. Pregnancy was diagnosed by rectal palpation 60-90 days post insemination.

RESULTS AND DISCUSSION

By rectal examination alone 32 (76. 2%) animals were diagnosed in true anoestrus and 10 (23.80%) were identified as suboestrous animals . Milk progesterone analysis showed that only 24 (57.2%) animals were in true anoestrus and 18 (42.8%) animals were suboestrus. Comparing the results of progesterone analysis with rectal examination, 12 (28. 6%) animals were found to be erroneously diagnosed as true anoestrus and 4 (9.5%) animals were incorrectly grouped as suboestrus. El-Wishy et al., (1971) found that 40% of cyclic buffaloes had embedded corpora lutea in their ovaries that could not be detected by rectal palpation. Jainudeen et al. (1983) indicated 29% of follicles are mis-diagnosed as corpora lutea on rectal examination. The accuracy of rectal examination of buffaloes for differentiating between suboestrous and true anoestrus was 60% and 62.5% respectively. The wide variation in degree and type of projection the corpus luteum above the surface of ovary (El-Wishy et al., (1988) may explain the low accuracy of diagnosing the corpus luteum in buffalo compared to zebu cows (Pathirja et al., 1986). The results of rectal examintion of the ovaries were in agreement with milk progesterone levels in 61.9% of the animals examined (26 of 42 animals). Chauhan and Singh (1977) reported that 60% of anoestrous buffaloes are suboestrous. The conception rate in the current study was 83.3% (15 of 18 animals) which is greater than 25-52% reported by Rao and Rao (1979) and Singh et al. (1979).The high conception rate recorded in our study is attributed to incorporation of rectal examination with determining milk progesterone which gave better accuracy for identifying the suboestrus animals. Singh et al., (1979) are of the opinion that the success of treatment with prostaglandin F₂ alpha is dependent on the accuracy of diagnosing the corpus luteum.

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