PREGNANCY ENHANCEMENT USING OVSYNCH PROTOCOL IN JAFFARABADI BUFFALOES

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ABSTRACT

Pluriparous Jaffarabadi buffaloes (24) were divided into two groups. Control group was inseminated twice at 24 h interval during natural estrus with good quality frozen thawed semen. Whereas treatment group buffaloes were treated with ovsynch protocol. Treatment group were achieved significant higher pregnancy rate when compare to control group.

Keywords: *Bubalus bubalis*, buffalo, ovsynch protocol, Jaffarabadi buffaloes

INTRODUCTION

Silent heats and long calving interval have been recognized as a major cause of infertility and low productivity in buffaloes. The productivity in domesticated buffaloes is limited for reasons like inbreeding, feeding and health care, but the major problem seems to be infertility that is much higher than that in cattle (Abol-Roos and Gaffar, 2000). Postpartum anestrus in buffaloes is responsible for long calving interval (Borghese *et al*., 1993; Campanile *et al*., 1993). Variable duration of estrus (4 to 64 h) and difficulty in predicting time of ovulation negatively influence the application of AI in buffaloes (Baruselli, 2001). However, the present study was conducted to study the efficacy ovsynch protocol in Jaffarabadi buffaloes.

MATERIALS AND METHODS

Pluriparous Jaffarabadi buffaloes (24) maintained in an organized farm were utilized for this study. All buffaloes were subjected to rectal palpation and ultrasonograpy to rule out presence of any palpable genital tract abnormalities. The buffaloes were divided into two groups. In control group (12), was inseminated twice at 24 h interval during natural estrus with good quality frozen thawed semen. In treatment group (12), were treated with intramuscular injection of a 10 µg GnRH analogue (Buserelin, Receptal VET, Intervet India Pvt. Ltd.) at Day 0 followed by 500 µg of a PGF2α analogue (Cloprostenol, Pragma, Intas Pharmacueticals Ltd.) at Day 7, a second GnRH injection at Day 9, and TAI 16 h after the second GnRH injection using frozen-thawed semen from a superior-proven buffalo bull (GnRH – Day 7 – PGF2α – Day 2 – GnRH – 16 h – TAI). In both control and treatment groups, pregnancy was confirmed by ultrasonographically on day 35 post AI.

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RESULTS AND DISCUSSION

Poor estrus signs were observed in control group and ovsynch treatments induced estrus signs of diverse intensity with bellowing, frequent urination, swelling of the vulva, and a pink-colored vestibule in all buffaloes of this study. The buffaloes had a variable degree of uterine tone and their cervices were open enough for easy passage of the AI gun during insemination. The percentage of ovulatory response was 33.33 and 100% in control and treatment group, respectively. The conception rate for treatment group was 58.33% (7/12) which is significantly higher than control group 25% (3/12). An ultrasonic image of a buffalo embryo at Day 40 of pregnancy is shown in Figure 1.

In previous studies, an ovulation rate of approximately 86% was recorded in cyclic buffaloes (Rao and Venkatramiah, 1991; De Araujo *et al*., 2002), 90% in cyclic and 50% in non-cyclic buffaloes (Neglia *et al*., 2003; Ali and Fahmy, 2007) and 82 to 90% in cyclic cattle (Pursley *et al*., 1995; Wiltbank, 1998; Frike *et al*., 1998) following the first GnRH administration. Similarly, 51.4% and 15.0% pregnancy rate was recorded in cows and Swamp buffalo heifers (Chaikhun *et al*., 2010). 33.3% pregnancy rate was recorded in Murrah buffalo (Paul and Prakash, 2005). Similar pregnancy rate were recorded by Baruselli *et al.* (1997) 55.7% and 61.7% (De Araujo *et al*., 2002) was recorded in postpartum pleuriparous buffaloes using ovsynch protocol.

Figure 1. Ultrasonographic image of 40 days old fetus.

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