

Ultrasonographic evaluation of early embryonic death (EED) in Mehsani buffaloes

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Introduction

Early embryonic mortality can be monitored using various techniques and probably the most accurate one is ultrasonography (USG). Since the widespread implementation of transrectal USG for reproductive research in cattle (Griffin and Ginther, 1992), several studies have reported rates of embryonic mortality during early gestation under field conditions. Vasconcelos *et al.* (1997) characterized embryonic mortality at various stages of gestation using transrectal USG and reported pregnancy losses of 11% (per cent) from 28 to 42 d (day/s), 6% from 42 to 56 d, and 2% from 56 to 98 d post AI (Artificial Insemination), suggesting that the rate of loss is higher early during gestation and decreases as gestation proceeds. Early pregnancy diagnosis can improve reproductive performance by decreasing the interval between successive AI services and coupling a non-pregnancy diagnosis with an aggressive strategy to rapidly rebreed these animals (Fricke, 2002).

History, Observation and Discussion

In the present study, three parous Mehsani buffaloes with an average body weight of 400 kg exhibited signs of estrus and were bred with good quality frozen semen. Early pregnancy detection was carried out in them by transrectal USG using ALOKA SSD – 500 with 5 MHz (Mega hertz) linear probe at 26

day, 35 day and 40 day post Artificial Insemination. All the three buffaloes were diagnosed pregnant by real time B-mode transrectal USG using 5 MHz linear probe at 26 day post Artificial Insemination. Finally pregnancy was confirmed by per rectal examination at 30 d post Artificial Insemination.

USG at 35 d post AI also revealed that all the three animals were pregnant. But, later on USG at 40 d post AI revealed all the three buffaloes were non pregnant, which was suggestive of early embryonic death (EED) occurred between 35 and 40 d post Artificial Insemination. Finally per rectal examination carried out at 50 d post AI also revealed all the three buffaloes as non pregnant and thus confirming EED.

All the three buffaloes returned to estrus between 64 to 72 d post AI thus indicating that EED does not affect the estrous cycle adversely. Technologies like USG to identify non-pregnant dairy cows, buffaloes and heifers early after AI may play a key role in management strategies to improve reproductive efficiency and profitability on commercial dairy farms.

References

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