Title of thesis : Studies on superovulatory response and embryo recovery rates using different drugs in Gaddi sheep.

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Abstract
The present study was carried out to standardize synchronization protocols using progesterone / PGF₂ alpha, to evaluate superovulatory response using different superovulatory drugs as well as to evaluate the effect of above synchronization and superovulatory protocols on embryo recovery rates in Gaddi sheep. Twenty four healthy Gaddi ewes were divided in four groups viz. G₁, G₂, G₃ and G₄. Synchronization in all the animals was achieved through a combination of Crestar s/c ear implants (containing 3 mg Norgestomet and an intramuscular injection of 3 mg Norgestomet and 5 mg Estradiol valerate) and PGF₂ alpha analogue (Prosolvin) @ 7.5 mg per ewe. All the animals manifested estrus post implant withdrawal. The mean interval to onset of estrus in the four groups was 30.0 ± 3.10, 29.0 ± 2.41, 27.0 ± 3.0 and 30.0 ± 1.55 h, respectively. Whereas, the average duration of estrus in all the groups was 38.0 ± 2.53, 37.0 ± 3.61, 42.0 ± 2.19 and 45.0 ± 1.34 h, respectively.

The animals of groups G₁ and G₃ were superovulated with 1000 IU eCG administered intramuscularly two days prior to implant withdrawal during both non breeding and breeding seasons, respectively. The average number of corpora lutea observed in both the groups was 5.33 ± 2.41 and 6.66 ± 1.74, respectively. However, overall mean embryo recovery in these groups was 0.49 ± 0.49 and 2.32 ± 0.99, respectively.

Superovulation in groups G₂ and G₄ was attempted using FSH-p, administered intramuscularly in six equal divided doses starting two days prior to implant removal during non breeding and breeding season, respectively. It induced poor superovulatory response in group G₄ (CL; 0.5 ± 0.5), and no animal responded in group G₂.

It appears from the above study that although eCG is effective for superovulation of Gaddi ewes yet development of follicular cyst is a major constraint
for optimum embryo recovery. Whereas FSH-p is not effective for superstimulation of Gaddi ewes either during non breeding or breeding season.