

Longer Time Intervals Between Chorionic Gonadotrophin Treatment and LOPU, But Not The LOPU Cycles, Have Positive Effect on Goat Oocyte Recovery

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Laparoscopic ovum pick-up (LOPU) is a non-invasive method of oocyte recovery (OR) for *in vitro* embryo production (IVP) from live animals. However, recovery of fewer oocytes, especially in the successive cycles, is a major problem for success in IVP technology. Therefore, the present study was designed to evaluate the effect of number of LOPU cycles on goat OR. Experimental female goats were divided into two groups, namely Groups I and II, depending on the time interval between chorionic gonadotrophin (CG) treatment and LOPU. Oestrus of the goats was synchronized with CIDR (progesterone, 0.3 g) for ten (Group I) or fourteen (Group II) days combined with a luteolytic treatment of Estrumate (cloprostenol, 125 mg) 48 h prior to CIDR removal. Ovarian hyperstimulation was obtained with gonadotrophin treatment consisting of Ovagen (FSH, 20 ml) plus Ovidrel (hCG, 1000 IU) (Group I) and Ovagen (10 ml) plus Ovidrel (250 IU) (Group II), administered intramuscularly 36 h (Group I) and 60 h (Group II) prior to LOPU. In each CG-LOPU group, OR was done up to three cycles in each goat.

No significant differences were observed in the number of visible ovarian follicles (2-3 mm), OR and viable oocytes between different cycles in both the CG-LOPU groups. When comparing each cycles between the two groups, a significantly higher ($P < 0.05$) number of follicles were observed in the first (18.5 vs. 12.4) and second (16.2 vs. 10.1) cycle in Group II, whereas differences were insignificant for third cycle. A significantly higher ($P < 0.01$) number of oocytes were recovered in all three successive cycles in group II than group I (14.4 vs. 4.8, 11.7 vs. 4.0 and 11.6 vs. 4.0 respectively for first, second and third cycles). In conclusion, LOPU cycles had no effect on the number of OR; however, increasing time interval between CG-LOPU from 36 to 60 h and decreasing level of hormones had significantly increased the number of OR in all three successive LOPU cycles. Therefore, good number of oocytes can be obtained from goat with lower level of hormones using a longer CIDR duration and CG-LOPU time interval without compromising oocyte number in successive LOPU cycles. This finding consequently will accelerate IVP in goat by providing more oocytes in a reduced cost.