Abstract:

Prostaglandin F$_{2\alpha}$ and its analogues (PGF) are widely used in equine reproductive practice. The interval from PGF treatment to ovulation (ITO) varies greatly with a range from 2 to 16 days. Clinical observation suggests that mares mated and ovulated soon after PGF treatment may have poor fertility. Reproductive records of 329 cyclic Thoroughbred mares were analysed retrospectively. The following parameters were analysed: (i) use of cloprostenol; (ii) ITO and (iii) number of ovulations per cycle. According to these parameters, mares were classified into four groups. (i) mares with spontaneous ovulations, $n = 57$; (ii) mares induced with cloprostenol and ITO = 4–7 days, $n = 77$; (iii) ITO = 8–10 days, $n = 89$ and (iv) ITO $\geq 11$ days, $n = 106$. Differences in pregnancy (PR) and multiple ovulation (MO) rates among groups were tested using chi-squared test. PR rates for groups 1–4 were: 73.7%, 46.7%, 64% and 71.7% respectively ($p < 0.05$). Groups 1 and 2 had lower ($p < 0.05$) MO rate (24.6% and 20.8%) than groups 3 and 4 (40.4% and 44.3%). It appears that ovulation soon after PGF-induced luteolysis is detrimental to PR rates. It was found highly significant that in cloprostenol-treated mares, the MO rate was enhanced without subsequent increase in multiple pregnancies.

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