Egyptian Journal of Sheep & Goat Sciences, Vol. 11, No. 3, December 2016 &Proceedings Book of the 6th International Scientific Conference on Small Ruminant Production, 6- 10 Nov., 2016, Sharm El Sheikh, Egypt, P: 132

Impacts of GnRH, PMSG and hCG treatments on follicular diameter, conception and lambing rates of Egyptian ewe lambs using intravaginal sponges

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The influence of gonadotropin releasing hormone (GnRH), Pregnant Mare Serum Gonadotropin (PMSG) and human Chronic Gonadotropin (hCG) on some reproductive responses of Egyptian ewe lambs was evaluated. Twenty five animals (aged 8 – 12 months and weighed 27 - 33 Kg) were divided into 5 groups (5 ewe lambs each). Group (1) served as a control, Group (2), received vaginal sponges impregnated with MAP (60 mg medroxy progesterone acetate) for 14 days, during these period, animals fed 3 kg Berseem (*Trifolium alexandrinum*) plus 500 gm concentrate/head/day. Group (3), received vaginal sponges impregnated with (60 mg, MAP) for 14 days, on the day of sponge removal; each animal injected by PMSG (250 IU, I/M). Group (4) animals received 1.25 ml Receptal (0.5 µg, GnRH) I/M, on day 0, Seven days later, ewe lambs injected with 0.5 ml Estromate (125 µg. PGF2α) I/M, after 48 hours, animals treated with the second dose of GnRH. Group (5) received two injections of 0.5 ml Estromate on days 0 and 7, respectively, after 72 hours from the second dose of PGF2α ewe lambs were injected 0.2 ml hCG. Heat detection was performed and trans-rectal ultrasound scanning also performed to confirm estrus, pregnancy and follicular diameter. The results revealed that, administration of PMSG (group 3) reduced the interval to estrus (the onset of heat /hours) significantly ($p< 0.01$) compared with control and other groups. Regarding conception and lambing rates, group 2, 3, & 4 had significantly ($P< 0.01$) affected than group 1 & 5. Follicular diameter (mm) tended to increase significantly in treated groups than the control one. Non-significant change was observed among groups in gestation period, while group 3 showed an increase in lamb's weight than the other treatments. Results suggest that, tested hormones have effect on selected reproductive responses in Egyptian ewe lambs while administration of PMCG (Group 3) has the best response compared to other hormonal treatments.

Keywords: **GnRH, PMSG, HCG, reproductive responses, Egyptian ewe lambs**