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WANVIPA SUTHIKRAI : OVARIAN RESUMPTION BY GONADOTROPHIN RELEASING HORMONE IN POST-PARTUM SWAMP BUFFALO *(Bubalus bubalis Linn.)*
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The Purpose of this study was to determine the effect of Gn-RH on ovarian resumption and the changing pattern of plasma P, E_2 and LH profiles in post-partum swamp buffalos. Five suckled swamp buffalo cows *(Bubalus bubalis)* at 45 days after calving were selected for this study. Four animals were given three consecutive intramuscular injections of 250 µg Gn-RH at 6.00 am. and 12.00 on 61 days and 6.00 am. on 62 days after calving. Plasma samples were taken every 10 min. in a period of 12 hrs starting from 6.00 am. to 18.00 pm. on three consecutive days of 60, 61 and 62 days after calving and all samples were assayed for plasma LH and partly of samples were assayed for P and E_2. The protocol was repeated in animals which exhibited inactive ovarian on the 90^{th} day after calving. Ovarian activity was monitored by plasma P and rectal palpation every five days during 45-150 days after calving. Each ovary was rectally examined to estimate size and recorded the presence of follicles or corpus luteum. All plasma hormones were determined by RIA.

In animals at 60 days after calving, it was found that Gn-RH could stimulate LH frequency up to 7 times/4-6 hrs with the amplitude of 32.9-52.3 ng/ml, E_2 and P were as high as 1.24-1.74 pg/ml and 0.15-0.36 ng/ml respectively in two animals which were in follicular phase. Gn-RH stimulated LH frequency up to 7 times/5 hrs with the amplitude of 394.6 ng/ml, E_2 was 0.98 pg/ml and P was 1.60 ng/ml in one animal which was in luteal phase. And Gn-RH could stimulate LH frequency up to 6 times/3 hrs in one animal which showed inactive ovarian with low level of E_2 and P which as low as 0.33 pg/ml and 0.03 ng/ml respectively.

Similar results were found in animals at 90 days after calving, Gn-RH stimulated LH frequency up to 6 times/5 hrs with the amplitude of 59.3 ng/ml, E_2 was 6.72 pg/ml, P was 1.0 ng/ml in one animal which was in follicular phase. Gn-RH stimulated LH in two animals which were in luteal phase with the frequency of 6-7 times/4-5 hrs and amplitude of 67.1-112.2 ng/ml while E_2 and P were found to be 0.38-1.82 pg/ml and 0.89-2.13 ng/ml respectively.

The rectal palpation technique showed the minimum size of ovaries were about 0.3-0.5 cm^3 and the maximum sizes were about 3.8-9.0 cm^3. Results obtained could not relate the phase of the cycle indicated by palpation to the plasma P level. Plasma levels of P were 0.78±1.40 ng/ml, 2.02±1.01 ng/ml and 0.57±0.84 ng/ml while rectal palpation technique showed follicle, corpus luteum and doubtful respectively.

It could be concluded that Gn-RH could stimulate both pulse and amplitude of LH release from the pituitary only in the follicular phase to resump ovulation in the buffalo. The rectal palpation technique may not suitable in this animal since the ovary is too small to monitor.