Effect of Exogenous Administration of Oxytocin on Follicular Dynamics and Milk Contents in Partially Lactating Nilli Ravi Buffaloes

Saeed Murtaza[1]*, Abdul Sattar[1], Nasim Ahmad[1], Irfan ur Rehamn[1], Muhammad Ijaz[1], Rehana Kousar[2], Muhammad Shehzad[2], Attaur Rehman[1] and Bilal Ahmad[1]

[1]*Corresponding author: saeedmurtaza@bzu.edu.pk

[1]University of Veterinary and Animal Sciences Lahore, Pakistan

[2]Nuclear Institute of Agriculture and Biology Faisalabad, Pakistan

In Pakistan, oxytocin is being used extensively in buffalo for milk let-down especially near terminal lactation when it refuse to accept calf for milk let-down. Therefore, exogenous oxytocin is an alternative of calf suckling and the main solution of buffalo milk letdown for dairy farmers but at same time it may be cause of erratic estrous cycle and infertility. Hence, a study was designed to know the effect of different concentration of oxytocin on follicular dynamics and milk contents in Nili-Ravi buffalo. Eight experimental buffaloes were synchronized with single injection of PGF2 after ultrasonography. Daily single injection of oxytocin to each animal @ 15, 30 and 45IU/IM respectively while control was injected with normal saline for 100 days. Ultrasonography was done thrice a week to monitor follicular dynamics during whole estrous cycle. Milk (n=400) was collected and analysed for its contents analysis with milkoscan. Results revealed that size of dominant follicle on left ovary was remarkably different in 30IU & 45IU of oxytocin treatments than 15IU & control. Large follicles were significantly ($P<0.05$) different from control and 15IU. Large follicles were lowest in number at 45IU than control. On right ovary, total follicles and small follicles counts were considerably ($P<0.05$) higher in 45IU than 0IU, 15IU and 30IU while sizes of dominant follicles were different significantly ($P<0.05$) in 0IU, 30IU and 45IU. Medium and large follicles disclosed same trend in all treatments. Among the milk contents: fat% was increased significant ($P<0.05$) in the peak dose 45IU while other contents: SNF, density, lactose, proteins, solids, freeze point and pH were decreased with respect to control. It was

concluded that oxytocin had limited effect on follicular dynamics with lowest count of medium follicles in all treatments. Further, it was confirmed that fat% increased with the increase in oxytocin concentration.