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Trepidation of Exogenous Administration of Oxytocin on Milk Production, Milk Contents and Somatic Cell Count in Freshly Lactating Nilli-Ravi Buffaloes (*Bubalus bubalus*)

Saeed Murtaza[1], Abdul Sattar[1], Nasim Ahmad[1], Muhammad Ijaz[2], Maqsood Akhtar[2], Ahmad Zia[3], Burhan-E- Azam[2]

[1] *University of Veterinary and Animal Sciences Lahore, Theriogenology, Pakistan*
[2] *University of Veterinary and Animal Sciences Lahore, Clinical Medicine and Surgery, Pakistan*
[3] *Buffalo Research Institute Pattoki, Pakistan, Clinical Science, Pakistan*

Abstract

In Pakistan, oxytocin is being used extensively in buffalo for milk let down when young ones are weaned or died. Currently, exogenous oxytocin injection is a major substitute of calf and instantaneous resolve of milk ejection. At present, it becomes a myth and a great public concern to not use oxytocin treated milk because of its toxic effects. To explore this great issue, a study was designed to know the consequences of indiscriminate use of oxytocin on milk production, somatic cell count and milk contents in Nili-Ravi buffalo. Four this purpose, 24 freshly calved buffaloes divided into three groups were injected with oxytocin twice daily at Morning and Evening prior to each milking at 10 and 30 IU/IM while control was on normal saline respectively for 150 days. Milk yield was recorded at the time of each milking. Milk samples (n=528) were collected at 50 ml and analysed for its contents analysis on weekly basis while somatic cell count was estimated through CMT and Porta Somatic Cell kits (n=240) on fortnightly interval. Results revealed that milk production was increased ($P < 0.05$) in 30 IU group as compared to control and 10IU groups. In general, 3-10 % increases in milk production. Among the milk contents: fat % and pH was increased ($P < 0.05$) in the peak dose 30 IU with respect to control and 10 IU. On the other hand lactose, solids and freeze point were similar in all three groups. However, density was significantly ($P < 0.05$) lower in higher dose group as compared to two groups. Similarly, protein was increase ($P < 0.05$) in 10 IU as compared to control and 30IU. So for somatic cell counts (SCC): they were not higher ($P > 0.05$) at fortnightly and monthly analysis. It was concluded that oxytocin had significantly positive effect on milk production and fat percentage but at the same time, it had unpleasantly change the taste of milk due to substantial increase of pH. Moreover, it was also confirmed that there was no remarkable increase of SCC in milk.

Keywords: Buffalo milk, concerns, keywords: Oxytocin, public health

Contact Address: Saeed Murtaza, University of Veterinary and Animal Sciences Lahore, Theriogenology, University of Veterinary and Animal Sciences Outfall Road E2-Sir Syed Hostel, 54000 Lahore, Pakistan, e-mail: saeedmurtaza@bzu.edu.pk