

HEMATOLOGICAL STATUS IN HEALTHY AND DISCARDED BULLS

Anil Prasad, A. K. Kundu and A.P.K.Mahapatra

Department of Veterinary Physiology

College of Veterinary Science and Animal Husbandry

OUAT, Bhubaneswar- 751003

Received 6-8-2011 Accepted 15-11-2011

ABSTRACT

A study was undertaken on hematological status in healthy and discarded bulls. Hb level, TEC in discarded bulls were found to be less as compared to healthy bulls, whereas TLC was found to be significantly higher in discarded bulls. Eosinophilia may be one of the factor responsible for producing poor quality of semen in discarded bulls.

KEYWORDS : Discarded bulls, Hematology, semen quality

INTRODUCTION

Semen banks in India are facing a lot of problem in supplying good quality semen for AI purpose due to production of poor quality semen by numbers of bulls reared but, very little work has been done on the hematology of crossbred bulls. Therefore, the present study was undertaken to find out the hematological status of those bulls that produce good and poor quality semen (discarded bulls).

MATERIALS AND METHODS

Semen samples are collected on a regular basis from crossbred Jersey bulls of 4-6 years age and then checked through computer assisted programme to find out the quality of the semen. On the basis of semen quality, two groups (Six bulls in each group) producing better and poor quality semen were selected as subject of the study. Blood samples were collected from all the animals and were analyzed following the standard method in use for hematological parameters like Hb g%, Total erythrocyte count (TEC) in millions/ μ l, Packed cell volume % (PCV), MCV (fl), MCH (pg), MCHC (%), Total leucocyte count (TLC) in thousands/ μ l and differential leucocytes count (%). The results obtained for both the groups of animals were compared statistically using student't- test according to Snedecor and Cochran (1967).

RESULTS AND DISCUSSION

The results obtained in this study for hemoglobin concentration (g%) for those bulls producing better quality semen was found to be 12.75 ± 0.11 g% which is in conformity with the findings of Welles et al. (1995) in bulls. The Hb g% in bulls those produce poor quality semen and were discarded was found to be 11.25 ± 0.18 g % which was found to be significantly ($p < 0.05$) less than that of healthy bulls indicating that the discarded bulls were anemic, though the anemia was not so severe. PCV (%) in case of healthy bulls was found to be 38.83 ± 0.78 % which is in agreement with the findings of Welles et al. (1995) in bulls and Hagawane et al. (2009) in buffaloes. The PCV % in discarded bulls were found to be within the range of 33-37% with an average of 35.33 ± 0.84 % which was lower ($p < 0.05$) than that of the healthy bulls. TEC of healthy bulls those produce better quality semen was found to be 6.45 ± 0.3 millions/ μ l which is in accordance with the findings of Welles et al. (1995) in bulls. Whereas, TEC in discarded bulls those produce poor quality semen was found to be within a range of 4.23 to 5.5 millions/ μ l with a mean of 5.04 ± 0.12 millions/ μ l which was lower than that of the healthy bulls. The significant decrease in TEC may be contributing towards decrease in PCV. MCV, MCH in healthy bulls were found to be significantly higher than

that of discarded bulls those produce poor quality semen. MCV and MCH in healthy bulls were calculated to be 59.18 ± 2.09 fl and 19.89 ± 0.94 pg respectively, which were in conformity with the findings of Mahapatra et al. (2005) and Kapale et al. (2008). MCHC in both the groups of animals did not vary significantly. TLC in healthy bulls those produce better quality semen was found to be 6.48 ± 0.08 thousands / μ l which was in accordance with Mir et al. (2008) and Kapale et al. (2008). TLC in case of discarded bulls those produce poor quality semen was found to be 7.57 ± 0.26 thousands/ μ l which was found to be significantly higher than that of the healthy bulls those produce better quality semen indicative of presence of some infections in those bulls may be suspecting little leucocytosis. DLC of leucocytes revealed that eosinophil % in discarded bulls were found to be significantly higher than those of the healthy bulls who produce better quality semen suspecting presence of some parasitic infestations in those bulls due to some careless management. Basophil, neutrophil, monocyte and lymphocyte per cent between these two groups of bulls did not vary significantly. Therefore, the increase in the TLC of those bulls may be due to increase in eosinophil per cent which may be due to some of the parasitic infestation. Therefore eosinophilia is one of the factors responsible for producing poor quality semen in discarded bulls.

REFERENCES

- Hagawane, S. D., Shinde, S. B. and Rajguru, D. N. (2009) *Vety. World.*, **2** (12): 467-469.
- Kapale, P. M., Jagtap, D. G., Badukale, D. M. and Sahatpure, S. K. (2008) *Vety. World.*, **1** (4): 113-114.
- Mir, M. R., Pampori, A., Iqbal, S., Bhat, I. A., Pal, M. A. and Kirmani, M. A. (2008) *Int. J. Dairy Sci.*, **3** (3): 154-159.
- Mohapatra, A.P.K., Kundu, A.K., Bisoi, P.C. and Prusty, B.M. (2005) *Ind. Vet. J.*, **82**:141-142.
- Snedecor, G.W. and Cochran, W.G. (1967) *statistical methods*, 6th edn., Oxford and IBH Publishing Company, Calcutta
- Welles, E.G., Tyler, J.W. and Wolfe, D.F.(1995) *Theriogenology*, **43**: 427-437.

□