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ASSESSING THE EFFECT OF COW URINE ON IMMUNITY OF WHITE LEGHORN LAYERS

Nidhi Garg[1], R.S.Chauhan [2], Ashok Kumar [3]

[1&3] Department of Animal Nutrition, College of Veterinary and Animal Science, G.B.P.U.A&T, UA-263145;
e.mail: *nidhigarg4@rediffmail.com*
[2] CADRAD, IVRI, Izzatnagar, U.P; rs_chauhan123@rediffmail.com

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Introduction

Urine therapy has a long history. Some recognized it as "water of life". In the "Vedas", the sacred Hindu scriptures, which is said to be the oldest books in Asia (approx. 1,500 BC), it is mentioned that "amrita" (beverages of immortality), the nectar of the gods, is urine. According to the Chinese pharmaceutical dictionary "Shang Han Lun", urine had been used as a medium for delivery of medicinal herbs to strengthen their effects as using herbs and urine to get her economized the quantity of precious medicinal herbs (Chauhan and Garg, 2003). Cow urine was found to enhance the humoral and cell mediated immune response in mice (Chauhan et al. 2001). Researchers had reported that Khamdhenu Ark increases B and T lymphocyte blastogenesis, increases IgG, IgA antibody titers in mice **(**Chauhan et al. 2001). Researchers had reported that the increased activity of leukocytes for phagocytosis due to Khamdhenu Ark will help in early recovery, reduction in recurrent infection and control bacterial infection **(**Chauhan et al. 2001). Chauhan and Garg (2003) considered cow urine as a bioenhancer.

Materials and methods

The experiment was conducted to study the effect of cow urine in the layer birds. Observations were taken on 50 layer birds of White Leghorn breed. The birds were vaccinated with New Castle disease vaccine before the start of experiment and were divided into two equal groups of 25 each. Group I was kept as untreated controls while the birds of Group II was given cow urine @ 1ml per bird. At every 15 days interval, blood and serum was collected from 5 randomly selected birds from each group. The mononuclear cells were separated from the blood using Histopaque-1077 (Sigma, USA) and were cultured in 96 well sterile micro titre plates. The B and T- Cell blastogenesis were performed using Con-A and LPS mitogens and following the procedures described by Chauhan (2003). The values of OD were obtained Delta OD were calculated and analysed to have lymphocytes stimulation index.

The New Castle disease vaccine induced antibody titres were measured using ELISA following the method described by Chauhan and Tripathi (2001).

Results and discussion

The average of B-cell blastogenesis capacity in control and treated group were observed 0.193 ± 0.0004 and 0.226 ± 0.0007 with 16.6% of increase in the treated group (Fig.1). The average of T-cell blastogenesis in control and treated group were observed 0.138 ± 0.0005 and 0.177 ± 0.0006 with 28.12% of increase in the treated group (Fig.2). The average of IgG level in control and treated group were observed 0.312 ± 0.01 and 0.348 ± 0.005 with 11.57% of increase in the treated group (Fig.3). Increase in IgG level is due to enhanced B-cells activity as a result of cow urine induced modulation in humoral immune response. All the mean Delta ODs were given in the Table.1. All these results had shown that cow urine had imparted significant effect on immune status of birds. Cow urine when given to birds, enhanced birds humoral and cell mediated immune response which was considered protective mechanism of the body, hence it can be concluded that cow urine can be given to the birds @ 1ml/bird to boost their immunity and to overcome immunosuppression and vaccination failure.

Table 1. Overall Means of T-Cell Blastogenesis in Control and Immuraksha Treated Groups

Days	Control	Treated
15	0.127± 0.0005	0.135± 0.0012
30	0.126± 0.0008	0.158± 0.0006
45	0.132± 0.0003	0.162± 0.0005
60	0.139± 0.0006	0.182± 0.0007
75	0.145± 0.0006	0.180± 0.0008
90	0.147± 0.0008	0.199± 0.0009
105	0.151± 0.0009	0.224± 0.0006

Table 2. Overall Means of B-Cell Blastogenesis in Control and Immuraksha Treated Groups

Days	Control	Treated
15	0.132± 0.00057	0.136± 0.00120
30	0.167± 0.00060	0.157± 0.00099
45	0.174± 0.00061	0.189± 0.00088
60	0.201 ± 0.00058	0.237± 0.00121
75	0.220 ± 0.00057	0.258± 0.00091
90	0.228 ± 0.00088	0.273± 0.00087
105	0.235 ± 0.00061	0.330± 0.00145

Table 3. Overall Means of Serum IgG Level in Control and Immuraksha Treated Groups

Days	Control	Treated
15	0.291± 0.0138	0.326± 0.0077
30	0.290± 0.0109	0.299± 0.0027
45	0.280± 0.0048	0.291± 0.0130
60	0.297± 0.0152	0.360± 0.0049
75	0.316± 0.0242	0.384± 0.0021
90	0.357± 0.0024	0.381± 0.0046
105	0.355± 0.0083	0.395± 0.0017

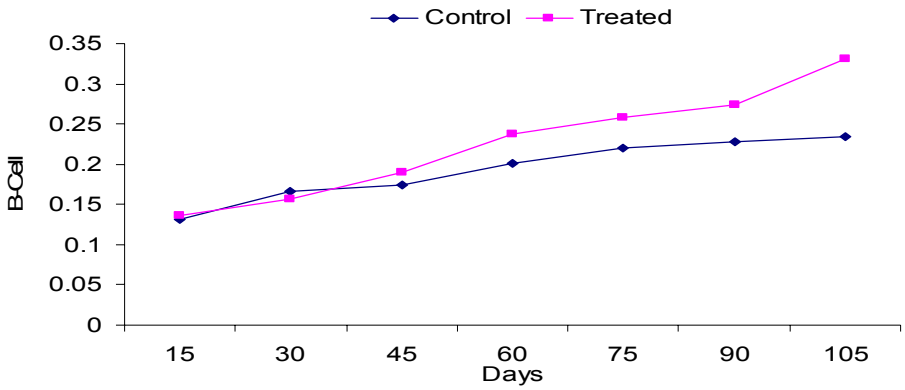

Fig 1. B-Cell blastogenesis in Treated and Control group

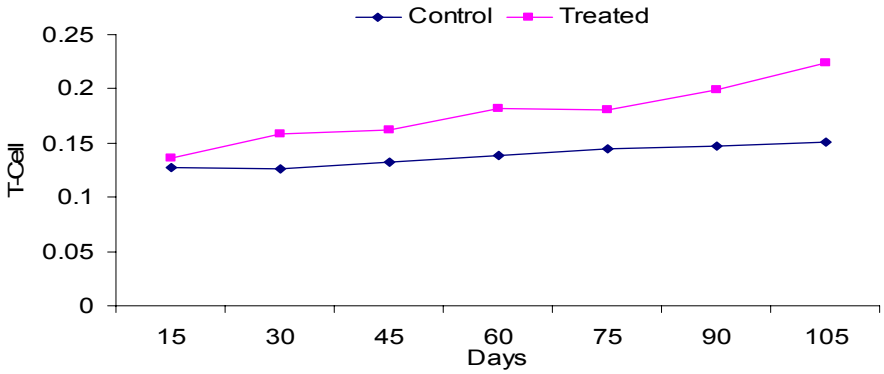

Fig 2. T-Cell blastogenesis in Treated and Control group

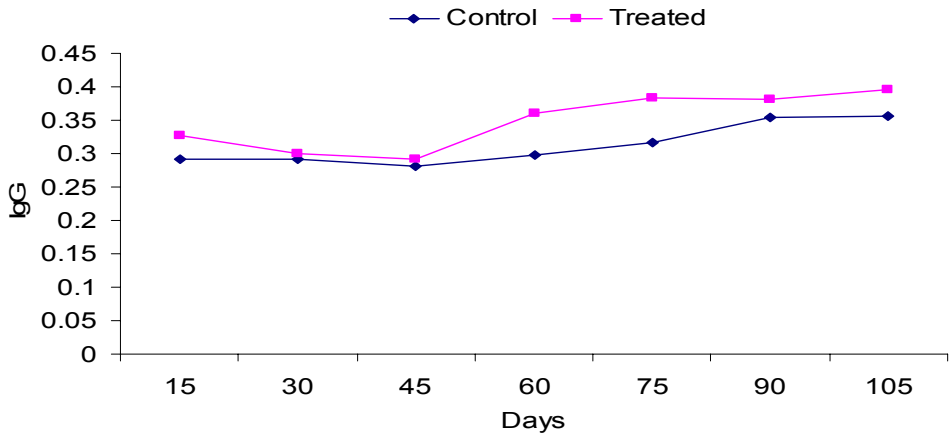

Fig 3. IgG level of Treated and Control group

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