

EFFECTS OF FEEDING COW URINE ARK AND ALOE VERA EXTRACT ON HAEMATOLOGICAL STUDY IN WHITE LEGHORN CHICKEN.

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ABSTRACT

A study was carried out to find the effect of administration of Cow urine ark and Aloe Vera extract on haematological parameters in White leghorn chicken. A significant increase was observed in Hb, TEC, TLC and PCV after administration of cow urine ark and Aloe Vera extract. The study reveals that the cow urine ark and Aloe Vera stimulates process of haematopoiesis.

KEY WORDS : Aloe Vera, Cow Urine Ark, Haematological, White Leghorn Chicken.

INTRODUCTION

Cow (*Bos indicus*) urine (*gomutra*) has been elaborately explained in Ayurveda and described in "Sushruta Samhita", "Ashtanga Sangraha" and other Ayurvedic texts as an effective medicinal substance or secretion of animal origin with innumerable therapeutic properties (Kekuda et al., 2010). Aloe Vera is a popular folk medicine and also known as the "wand of heaven". Scientists have discovered over 150 nutritional ingredients in Aloe Vera which work together in a synergistic way to create healing and health benefits (Crosswhite and Crosswhite, 1984, Jagdeeswaran et al. 2012). Scanty information is available on the effect of Cow urine and Aloe Vera on hematological parameters in chicken, therefore, present study was undertaken to evaluate the influence of combination of Cow urine ark and Aloe Vera on certain hematological parameters in chicken.

MATERIALS AND METHODS

Preparation of Cow urine ark and Aloe Vera extract

The Cow urine was collected from indigenous cows raised under standard feeding and managerial conditions from Dayodaya Dairy farm, Jabalpur. The ark was prepared as per method described by Khanuja et al. (2002). The alcoholic extract of Aloe Vera was prepared as per the method described by Pandey and Shrivastava (1989).

Forty, day old chicks were procured from Phoenix Poultry Farm, Jabalpur and were divided into four groups A, B, C and D containing 10 birds in each. They were kept separately and maintained under similar hygienic conditions, standard ration and water was given *ad libitum*. In treatment groups B, C and D, 1 ml Cow urine ark, 1 ml Aloe Vera and 0.5 ml cow urine ark along with 0.5 ml Aloe Vera were given (orally) daily to birds for 90 days respectively. Birds of group A served as control. Blood samples were collected from jugular vein in heparinized tubes on 90th day of the study.

RESULTS AND DISCUSSION

The present study revealed that Hb and TEC values in birds treated with combination of cow urine ark and Aloe Vera were significantly higher ($p < 0.05$) than in control group. The similar pattern was observed in PCV and TLC values. The birds treated with either cow urine ark or Aloe Vera showed significantly higher values of Hb, TEC, TLC and PCV than control group however, it was significantly lower than the birds treated with combination of both (Table).

Cow urine ark and Aloe Vera has long been used as a therapeutic agent with numerous reported medicinal properties (Reynolds and Dweck, 1999). An increase in hemoglobin content coupled with increase in RBC count indicates stimulation of erythropoiesis. The findings indicated that the values of Hb, TEC and PCV increased significantly in the Cow urine ark treated group as compared to Group A (control); whereas, non significant changes were observed in the erythrocyte indices. The physiological effect of Cow urine ark on hematological parameters may be due to the presence of iron in traces and other haematinic components found in cow urine as narrated by Bapu (2001). On this account, several Cow urine ark preparations have been marketed as a safe and useful therapy of various maladies related to hemopoietic disorders. The changes in the leucogram were featured by highly significant increase in total leukocyte count. Similar changes are also reported in Hb, PCV and TLC concentration upon cow urine distillate administration, in broiler chicken by Shakya et al. (2007). Oral administration of Aloe Vera extract significantly increased the RBC count and the Hb content. The increase in the blood indices could be related to the chemical composition of the Aloe Vera extract. Talmadge et al. (2004) and Chavhan et al. (2011) reported that higher levels of polysaccharides especially acemannan is found in Aloe Vera which is responsible for the haemopoetic action.

Table : Mean Value of Hematological parameters in white leghorn chicken fed with Cow urine ark, Aloe Vera and their combination.

Groups	Mean Value of Hematological parameters on 90 th day			
	Hb concentration (g/dl)	TEC (millions/ μ l)	TLC (thousands/ μ l)	PCV (%)
A	10.76 \pm 0.10	3.72 \pm 0.07	16.97 \pm 0.39	31.90 \pm 0.31
B	11.33 ^d \pm 0.13	4.25 \pm 0.08	18.87 \pm 0.39	33.41 ^c \pm 0.27
C	11.09 ^d \pm 0.14	4.52 ^d \pm 0.06	19.53 ^d \pm 0.39	31.99 ^d \pm 0.28
D	12.20 ^b \pm 0.14	4.88 ^c \pm 0.06	20.97 ^c \pm 0.41	36.27 ^b \pm 0.27

Mean Value bearing different superscript differ significantly ($p < 0.05$)

From this study, conclusion may be drawn that Cow urine ark and Aloe Vera extract have a stimulating effect on the haematological parameters. Although combination of Cow urine and Aloe Vera tend to show a better effect when compared to the effect of Cow urine ark and Aloe Vera treated alone in chickens. Thus these medicaments can be used as feed additives in poultry feed. This treatment will not only improve the RBC values but will also improve the immunity by significant elevation in TLC values.

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