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STUDIES ON COMPARATIVE EFFICACY AND PERFORMANCE INDEX OF EXPERIMENTAL CAECAL COCCIDIOSIS IN BROILER CHICKS TREATED WITH *MERCURIUS CORROSIVUS.*

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Short Profile

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ABSTRACT:
The present communication deals with the study of the efficacy of homoeopathic medicine *Mercurius corrosivus* at different potencies and Amprolium allopathic drug against experimental caecal coccidiosis in broiler chicks. The infection was induced by giving a dose of 50000 sporulated oocysts of *E. tenella* to broiler chicks. The homoeopathic medicine *Mercurius corrosivus* at different potencies in concentration of 1 ml/lit. was administrated to the experimentally infected broiler chicks by placing it in the drinking water from third day post infection for three days. During the experimental period it was observed and found that the birds exposed to caecal coccidiosis and treated with homoeopathic medicine in different potencies showed better performance indices as compared to other infected group of birds. Form the above study it was clear that the homoeopathic medicine *Mercurius corrosivus* 30X and 200X potencies is found to be highly effective against severe form of experimentally induced caecal coccidiosis; other details were discussed at length in the text.

KEYWORDS
Experimental caecal coccidiosis, Homoeopathic drug, broiler chicks, efficacy.

1.INTRODUCTION

Coccidiosis is one of the most important and major highly pathogenic disease in poultry Pellerdy, L.P. (1974), causes severe financial loss due to mortality and high morbidity in flocks. There is availability of a large variety of anticoccidial drugs but many of them fail to be satisfactory. For the effective treatment and control of caecal coccidiosis and to combat the development of drug resistance. Many types of anticoccidial drugs are manufactured and tried from time to time. Madrewar B. P. (1996) gives use of some homoeopathic drugs to combat different disease at veterinary side in his therapeutics of veterinary homoeopathy. The importance of homoeopathic drugs and their effective sustainable use other than human is explained well by Naveen (2005). In this light during the present study, the homoeopathic medicine *Mercurius Corrosivus* 30X, 200X and 1 M potencies was tried against the experimental caecal coccidiosis in broiler chicks as treatment of control and its effects and performance analysed on different parameters.

MATERIALS AND METHODS:

One hundred and eighty, day old broiler chicks were procured from commercial hatchery and kept separately under coccidia free condition house and reared by adopting deep litter system. The birds were fed with coccidiostat free starter mash up to three weeks of age followed by a finisher mash till the end of the experiment. Chicks of three weeks of age were randomly divided into five groups (30) in each group. The birds of group A served as healthy control birds (HCB), group B as infected untreated birds (IUB), group C as infected treated with amprolium (IA) post B, group D, E and F as infected treated with *Mercurius corrosivus* 30X, 200X and 1M potencies respectively (IMC (30X) post B, IMC (200X) post B and IMC (1M) post B). Each birds of groups B, C, D, E and F was infected orally with 50,000 sporulated oocysts of *E. tenella.* The birds of group D, E and F were treated with homoeopathic medicine Mercurius corrosivus 30X, 200X and 1 M potencies @ 1 ml/lit. in drinking water form 3rd day of post infection for three days. Comparative efficacy of *Mercurius corrosivus* 30X, 200X and 1 M potencies was evaluated on the basis of overall performance of birds in different groups. It was assessed with different parameters such as gain in body weight, survival percentage and lesion score protection as per the method described by Morehouse and Baron (1970), Johnson and Reid (1970). Statistical analysis was done by ANOVA.

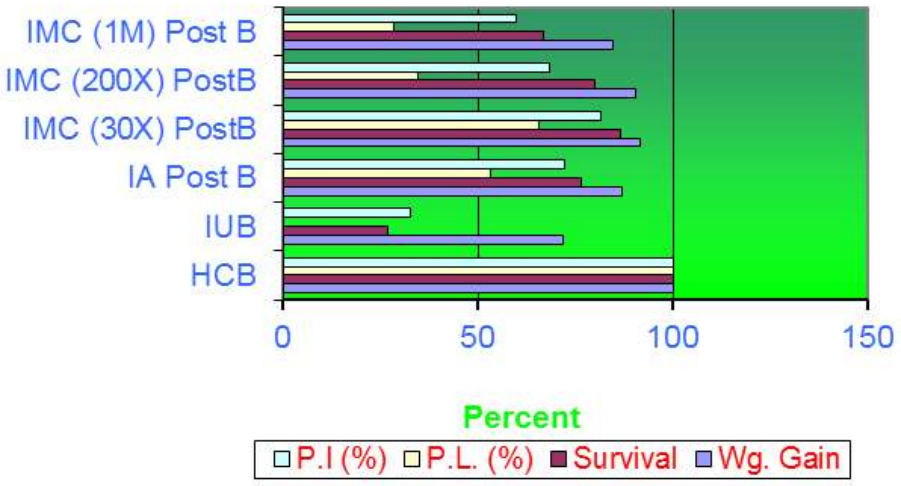
RESULTS AND DISCUSSION:

Table: Comparative efficacy and performance index of different treated groups in experimental caecal coccidiosis in broiler chicks.

Group	Weight (G)	Weight Gain (%)	Survival (%)	Protection against Lesion (%)	Performance Index	Performance Index (%)
A: HCB	1380.50	100.00	100.00	100.00	300.00	100.00
B: IUB	989.16	71.65	26.67	0.00	98.32	32.77
C: IA post B	1202.50	87.10	76.67	53.25	217.02	72.34
D: IMC (30X) Post B	1267.50	91.81	86.67	65.75	244.23	81.41
E: IMC (200X) post B	1251.33	90.64	80.00	34.50	205.15	68.38
F: IMC (1 M) post B	1169.16	84.69	66.67	28.25	179.61	59.87

Abbreviations:
A-HCB - Healthy control bird
B-IUB - Infected untreated bird
C-IA post B - Infected and Amprolium treated
D-IMC (30X) post B - Infected and *Mercurius Corrosivus* (30X) treated
E-IMC (200X) post B - Infected and *Mercurius Corrosivus* (200X) treated
F-IMC (1M) post B - Infected and *Mercurius Corrosivus* (1M) treated

Fig. : Perfomance index of broiler chicks from different groups



From the table and figure it is evident that the treatment with *Mercurius corrosivus* 30X, 200X and 1 M potencies resulted and observed that the overall performance of healthy control birds (HCB) and those infected birds subjected to homoeopathic treatments. Considering the percent weight gain of the healthy control birds (HCB) group of birds as 100, the values for infected and *Mercurius corrosivus* 30X, 200X and 1 M potencies treated group of birds (IMC 30X, 200X and 1 M) and amprolium alone treated group of birds (IA) were (91.81, 90.64 and 84.69) and 87.10 percent respectively, whereas it was 71.65 percent in infected untreated group of birds.

The survival was 100 percent in healthy control birds (HCB) group of birds as compared to (66.67 to 86.67) percent among infected treated group of birds (C to F) i.e. IA, IMC 30X, IMC 200X, IMC 1 M and (26.67) percent in infected untreated control group of birds (B) IUB.

The protection against lesions ranged from (28.25 to 65.75) percent among the infected and treated groups of birds (Group C to F) IA, IMC 30X, IMC 200X, IMC 1 M as compared to zero percent in infected untreated group of birds (Group B, IUB)

The performance index of infected untreated group of birds (Group B IUB) was 98.32 (32.77 %) as compared to 179.61 to 244.23 (59.87 to 81.41%) of the infected treated groups of birds (Group C to F) IA, IMC 30X, IMC 200X, IMC 1M potencies and 300.00 (100%) of healthy control group of birds (Group A, HCB)

The overall performance of the birds subjected to various treatments as assessed from percent weight gain, percent survival, percent protection against lesions, performance index and percent performance index. From the above study it is noted that the homoeopathic drugs Mercurius corrosivus 30X and 200X potencies exerted better effects. It is also observed that amprolium alone and Mercurius corrosivus 30X and 200X potencies post treatment showed similar performance index indicating post treatment with Mercurius corrosivus 30X and 200X potencies had additional beneficial effect in experimental caecal coccidiosis infected poultry / broiler chicks. Further it is also seen that treatment of Mercurius corrosivus 30X and 200X potencies effect as revealed from similar percent weight gain, survival percent and percent performance index except protection against lesion percent. The above findings of the present study are more or less similar to the findings of Panda et. al. (1997, 1999) who reported that Esb3 treated for E. tenella infected birds showed gain in body weight, better feed conversion, low lesion score and good performance index. The present results are also related to the report of Mukharji et al. (1994) who studied the therapeutic efficacy of supercox, duocoxin and zycox against experimental caecal coccidiosis in broiler chicks. They found that lesion score was minimum in supercox treated group followed by zycox and then duocoxin also reported better weight gain in zycox treated group than Duocoxin and supercox treated groups. Padmavati et al. (1995) found lesion score of infected untreated group was higher as compared to infected medicated group in experimental mixed coccidiosis of chicken and also undertook the study of efficacy of Esb3 in experimentally induced coccidiosis and evaluated the efficacy on the basis of weight gain along with other parameter these findings are more or less similar to the present study.

CONCLUSION:

In conclusion this study has shown that the performance index observed in group B (IUB) may be suggestive of the effect of the infection with *E. tenella* pathogen. But these effects are reduced in infected and treated group of birds so the performance index of the treated groups is better in the

group treated with homoeopathic medicine *Mercurius Corosivus*. For improvement or recovery from the disease caecal coccidiosis in poultry birds the homoeopathic medicine *Mercurius Corosivus* 30X and 200X potencies exerted beneficial effect in experimental caecal coccidiosis in broiler chickens. Further research on field level for control the disease coccidiosis in broiler chicks is therefore suggested /necessary.

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