Annals of Biological Research

Abstract

Antiviral effect of Anthocleista nobilis root extract on the

biochemical indices of poultry fowls infected with Newcastle Disease Virus (NDV)

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This study reports the antiviral effect and physiological evidences of A. nobilis on the biochemical indices of poultry fowls treated for Newcastle Disease. Eighteen 8-weeks-old fowls were used for this work. These were divided into three groups, A (infected and treated), B (infected but not treated) and C (control). Groups A and B were challenged with viral pathogen of Newcastle disease. Group A were given ethanolic root extract of Anthocleista nobilis orally at intervals of 6 hours at 0.5mg per 100g of body weight for 28 days. All the fowls were given tetracycline antibiotic to eliminate bacterial infections. The average body weight and the temperature were monitored. The cytological examination of the fowls in group B showed that there was ulceration in the intestinal lining. The mortality rates of the fowls in group B was 66.7% while those of group A was 16.7%. The result of the study indicated a drop ($P<0.05$) in the biochemical parameters levels of the infected and untreated fowls (group B). For group B, there was a drastic decrease in mean total protein from 51.00g/l (day 1), 28.85g/l (day 7) to no survivor (day 28). Mean albumin from 26.73g/l (day 1), 10.40g/l (day 7) to no survivor (day 28) and mean globulin from 24.31g/l (day 1), 18.45g/l (day 7) to no survivor (day 28). Those of group A tended toward normal. Increased ($P<0.05$) in total protein, albumin and globulin was found in group A. There was no drastic decrease ($P>0.05$) in mean values of biochemical parameters of group A fowls. Total protein increase from 41.15g/l (day 7) to 49.40g/l (day 28) and albumin from 26.53g/l (day 7) to 26.90g/l (day 28). Mean globulin decreased slightly from 23.35 (day 1) and 23.93g/l (day 7) to 22.50g/l (day 28) for group A fowls but this decrease was not significant ($P>0.05$). Group C (control) showed negligible differences. The study showed that ethanoic extract of Anthocleista nobilis is able to correct the physiological alteration associated with Newcastle disease. Conclusively, the biochemical values obtained for poultry fowls treated with ethanolic root extract of A. nobilis fell within normal stipulated ranges. This is a good indication that poultry fowls infected with Newcastle disease virus (NDV) can be treated with ethanolic root extract of A. nobilis without any health hazard. However, there is still the need for further studies on histopthatology which was not covered in this study.

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