DOSE RESPONSE RELATIONSHIP OF *Salmonella* Enteritidis INFECTION IN GUINEA PIGS

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W.A.D.S.N. GREGORY

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W.A.D.S.N Gregory

Department of Biochemistry

University of Peradeniya

Peradeniya

Sri Lanka

Salmonella Enteritidis (*S.* Enteritidis) is a food borne pathogen causing infections in human characterized by diarrhoea, fever, abdominal pain, headache and vomiting. The serious public health consequences entails by this organism has led to determine the dose response relationship of *S.* Enteritidis using guinea pig as an experimental model in the present study.

Three groups of guinea pigs when infected with 3.0×10^8 cfu/ml, 3.0×10^6 cfu/ml, 3.0×10^3 cfu/ml of *S.* Enteritidis and compared with control group showed a loss of body weight of animals infected with doses higher than 3.0×10^6 cfu/ml. Though this was not a significant loss, there was a dose dependant loss in body weights of the guinea pigs. No change of body weight was observed in the group received 3.0×10^3 cfu/ml of *S.* Enteritidis and the control group.

Number of viable *S.* Enteritidis, shed with faeces was also determined over a period of one week and within 24 hours of post infection the organism was isolated in the faeces of animals who were given doses higher than 3.0×10^6 cfu/ml of *S.* Enteritidis. Viable *S.* Enteritidis count in faeces of infected animals increased up to three days post infection and decreased subsequently. The shedding of the *S.* Enteritidis in faeces continued throughout the experimental period.

When the moisture content present in faeces was measured over one week, it showed an increment from second day onwards of post infection in all the three test groups but not in the control group.

Guinea pigs responded to oral inoculation of *S.* Enteritidis in dose response manner. The weight loss, moisture content of the faecal matter, viable colony count in faeces can be used as parameters to find the severity of the infection. In some instances though the microorganism was administered, it was not sufficient to cause an illness. This dose was tolerated by the animals and they appeared healthy without showing any clinical symptoms.