

Pathogenicity of the Malaysian *Salmonella enteritidis* Phage Type 6a Isolate in Specific Pathogen Free Chickens

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Abstract

Salmonella enteritidis (SE) remains an important cause of zoonotic diseases. Humans are commonly infected with SE from chickens through food borne origin. It is suspected that different phage types of SE could cause different severity of infections in chickens. It was the objective of this study to determine the pathogenicity of SE phage type 6a in specific pathogen free (SPF) chickens. Seventy-two, day-old SPF chicks were divided into three groups namely, SE, mortality and control groups. All chicks were fed with an antibiotic free diet and fresh water *ad libitum* throughout the study period. The SE and mortality groups were inoculated orally with 0.1 mL of 10⁷ cfu of SE phage type 6a. Four chicks were sacrificed prior to SE inoculation. At days 1, 3, 5, 7, 14 and 21 post-inoculation (pi), four chicks each from the SE and control groups were sacrificed. The study showed that there was no significant difference ($p > 0.05$) between the SE and control groups in weight gain throughout the trial. The SE group showed clinical signs of listlessness, ruffled feathers and mild diarrhoea from day 3 pi until day 14 pi: slightly pinkish diarrhoea during the first 7 days pi but watery to pasty dark brownish thereafter. The gross and histological changes of the liver, spleen, ileum, caecum and caecal tonsil were only mild ranging from mild congestion, degeneration and necrosis to mild inflammation. No mortality was recorded. The study indicates that SE phage type 6a isolate of Malaysia is of low pathogenicity in one-day old SPF chicks.

Keywords: specific pathogen free chicks, *Salmonella enteritidis* phage type 6a, pathogenicity