

A SEROLOGICAL AND BIOCHEMICAL CHARACTERIZATION OF *SALMONELLAE* ISOLATED FROM POULTRY AT THE MICROBIOLOGY DIAGNOSTIC LABORATORY

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Genus *Salmonella* consists of more than 2300 serotypes and several of them are responsible for infections in poultry. Some serotypes are highly host adapted while others are responsible in causing food borne diseases in humans. Failure to control salmonellosis in poultry has resulted in reduction of profit to the industry and increasing incidence of human salmonellosis. However the majority of the *Salmonella* serotypes associated with poultry in our country are still not known.

Objectives of the present study were to analyze specimens submitted to the microbiology diagnostic laboratory for *Salmonella*, identify serotypes associated with poultry and to study their biochemical characteristics.

Twenty-seven poultry *Salmonella* isolates obtained from clinically infected birds and carriers were used for the study. Biochemical tests were performed following standard microbiological procedures. Organisms cultured on nutrient agar were serotyped using slide agglutination tests with standard antisera (S & A Lab. Thailand). Serotypes were identified using Kuffmann- white scheme.

Salmonella enterica serotype Gallinarum biotype Gallinarum (66%) was found to be the major causative agent of poultry salmonellosis in the 4 Districts in the study namely Kandy, Kurunegala, Matara and Gampaha. In addition presence in poultry of *Salmonella enterica* serotype Enteritidis (30%) and serotype Typhimurium (4%), considered.

Food borne pathogens in Sri Lanka were confirmed. Variations in O:12 antigen that had been commonly encountered in *S. pullorum* were also observed in *S. gallinarum* isolates. Somatic antigen O:1 was rarely positive (5.5%) in both *S. pullorum* and *S. enteritidis*.

Significant biochemical differences observed among the 3 serotypes described in the study were, inability to produce hydrogen sulphide and gas in Triple Sugar Iron Agar after 24 hrs of incubation by *S. Gallinarum*, production of high amount of hydrogen sulphide and gas by *S. enteritidis* and forming alkaline slant, acid butt with little hydrogen sulphide and gas production in Triple Sugar Iron Agar by *S. typhimurium*. Rapid fermentation of dulcitol by *S. gallinarum* is an important criterion for the differentiation of biotype, Gallinarum and Pullorum.