

ABSTRACT

Development of new vaccines against Salmonella requires predetermination of the most prevalent Salmonella serotypes in poultry farms. A total of 47 suspected Salmonella isolates were obtained from poultry farms and poultry products in Jordan. These isolates were serologically cross reacted with Salmonella poly-O-antiserum (factor O1, O9, and O12) using slide agglutination test. Isolates which positively cross reacted (62% of the total isolates), were further identified by biochemical tests. Based on biochemical and serological reactions, 72% were identified as Salmonella. gallinarum, 10.5% as S. enteritidis, 7% as S. typhimurium, and 10.5% untypable. Control standard rough type S. gallinarum 9R did not react with poly-O- nor with poly-H-antisera. Lipopolysaccharides (LPSs) from S. gallinarum, S. enteritidis, and S. typhimurium were smooth type and had identical electrophoretic pattern as revealed by deoxycholate-polyacrylamide gel electrophoresis. LPS from S. gallinarum 9R mutant had one band which migrated faster than the full core of the wild type LPS, indicating loss of one or two sugars from the full core. Specific antisera raised against the heat killed bacteria of the wild types S. gallinarum, and S. enteritidis showed strong cross reactions with each other, and with the S. typhimurium LPS using ELISA, but not with rough type LPS of S. gallinarum mutant. Thus, the results suggesting that development of a protective vaccine against one strain of the wild type might have a potential protection against subsequent infections with antigenically related pathogens.

KEYWORDS

Salmonella, Lipopolysaccharide, Serology.