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CAN WE TRUST PFGE TYPING TO DETERMINE *SALMONELLA* SEROTYPES ?

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Salmonellosis is one of the most important foodborne diseases affecting humans. In order to identify the relationship between *Salmonella* infections and their sources, 59 food variants and 54 food animals and the isolates from 50 ill humans were initially characterized by traditional serotyping, then evaluated by Pulsed-Field Gel Electrophoresis (PFGE) with the restriction endonuclease *Xba*I. Human isolates were classified into 6 serotypes, while food isolates represented 11 serotypes with 1 subsp. *salamae.* Animal isolates represented 15 serotypes with two subspecies (i.e., *diarizonae* and *salamae*). Serovars Kentucky and Enteritidis were found in all the sources studied. Among 163 isolates, traditional serotyping results of 14 isolates representing 11 serotypes did not match PFGE profiling results at the first attempt of serotyping. Results of re-serotyping of these isolates matched with PFGE results, which is a more reliable tool for genetic relatedness. Isolates with same serotype were characterized into multiple PFGE patterns. For example 4 Enteritidis isolates represented 4 different PFGE patterns. *S.* Montevideo isolates had the most genetic variation according to PFGE typing, while isolates representing serotypes Newport, Paratyphi B, and Anatum had less variation. Among isolates set in our study, PFGE was more discriminative and reliable method. PFGE can be used for serotyping in large set of isolates. In addition, PFGE based characterization of human, animal and various food isolates could be used for surveillance systems, including the improved understanding of the evolutionary path and diversity of *Salmonella* in Turkey.

Keywords: *Salmonella*, PFGE, Serotyping

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