Application of molecular methods for identification of strains classified as Salmonella enterica serovar 6, 7/-/- by conventional serotyping - DTU Orbit (15/12/2018)

An increased prevalence of Salmonella enterica serovar Tennessee (6, 7: z(29):-) was observed in broiler flocks in Denmark in 1994 and a parallel increase in the prevalence of Salmonella enterica serovar 6, 7:-- was demonstrated, albeit at a lower level. Plasmid profiling and ribotyping revealed similar genotypes and it was speculated that serovar 6, 7:-:- could represent a non-motile variant of Salmonella Tennessee. Re-testing of the Salmonella 6, 7:-:- isolates demonstrated the presence of flagella through positive motility. All isolates but one demonstrated motility using both tube tests and light microscopy of overnight broth cultures. Molecular characterization indicated that all but two isolates previously classified as Salmonella 6, 7:-:, were isolates of Salmonella Tennessee and Salmonella Infantis, exhibiting reduced motility. Re-serotyping and multiplex polymerase chain reaction analysis for the phase 2 gene fljB demonstrated variants of Salmonella Infantis (6, 7: r: z(49)) expressing the R-phase antigen (Rz(49)) and possessing the gene for normal phase 2 antigen H: 1, 5. One of the two undefined strains demonstrated genotypic identity with a Salmonella Livingstone reference strain. The remaining putative 6, 7:-:- strain could not be identified and was genuinely non-motile. Diagnostic procedures performed initially were thus insufficient to differentiate between the different levels of motility and also resulted in mis-serotyping. As similar observations were made with two of 14 isolates received from a foreign laboratory, this may represent a general diagnostic problem.