

P1755 Comparison of multidrug-resistant extraintestinal pathogenic *Escherichia coli* from patients with urinary tract infection and food animals to investigate the possible chains of transmission

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Background: Several potential reservoirs for the extraintestinal pathogenic *E. coli* (ExPEC) strains have been identified, including food animals, retail meat products and other environmental sources. Understanding ExPEC reservoirs, chains of transmission and epidemiologic associations will assist greatly in finding ways to reduce the ExPEC-associated disease burden. In the present study, our objective was to investigate the antimicrobial resistance profile, phylogenetic background and virulence factors of *E. coli* isolates from food animal sources and to compare with the geographically and temporally matched collection of isolates from patients with urinary tract infection (UTI).

Materials/methods: Isolation of MDR *E. coli* was performed on a total of 250 raw and ready to eat food samples along with a total of 200 *E. coli* isolates from patients with UTI from a main teaching hospital in Palermo, Italy. Susceptibility to a panel of nine antibiotics was determined and the isolates resistant to at least three classes of antibiotics were defined as MDR. Established PCR methods were used to define ST131 and its H30 subclones, ESBL, AmpC, and plasmid-mediated quinolone resistance (PMQR) determinants. ERIC-PCR and Raman spectroscopy were performed to analyse the relatedness among ExPEC isolates. *E. coli* MVA5T131, jj2663 and BUTI 1-2-1 were used as control strains.

Results: MDR *E. coli* were only isolated from chicken meat samples (84.4%, 152/180). Based on the molecular definition of ExPEC, 78% (156/200) and 36.8% (56/152) isolates from clinical samples and chicken meat were attributed with the status of ExPEC, respectively. SNP-PCR results confirmed a total of 91.9% (125/136) and 69.2% (9/13) of the clinical and chicken meat isolates belongs to B2 phylogroup were ST131, respectively. Both ERIC-PCR and Raman Spectroscopy (RA) analysis showed a large heterogeneity among isolates.

Conclusions: The results of this study show an alarmingly high prevalence of MDR *E. coli* and especially ExPEC isolates from both chicken meat and UTI patients in our geographic area. Although both ERIC-PCR and RA showed no clustering into distinctive clones of isolates from chicken meat and human origin containing the same ESBL genes. More studies are needed to elucidate the role of chicken meat in the rise of ExPEC in humans.