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O0576 Prevalence of *Salmonella* spp. isolates from gulls and pigeons in Barcelona, Spain: is there any interconnection with *Salmonella* clinical isolates?

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Background: *Salmonella enterica* is one of the leading causes of food-borne diarrheal diseases, being Enteritidis and Typhimurium the most common serovars. The aim of this study was to investigate possible epidemiological relationships between isolates from wild-living birds and patients in Barcelona, Spain.

Materials/methods: As part of the sanitary and epidemiological surveillance carried out by the Public Health Agency in Barcelona, faecal samples from young specimens of yellow legged gull (*Larus michahellis*), Audouin's gull (*Larus audouinii*), and pigeon (*Columba livia*) were collected in the periods May-July 2013, May-July 2014 and November-December 2014, respectively. *Salmonella* spp. strains isolated from clinical samples from patients attended in Hospital Clínic of Barcelona from 2013-2016 were also collected. Samples were cultured and *Salmonella* isolates were further analysed: antimicrobial sensitivity, serotyping, PCR for monophasic strains identification, and pulsed-field gel electrophoresis (PFGE). The degree of similarity between *Salmonella* isolates from birds and patients was determined and whole genomes sequencing (WGS) was performed for related strains (Illumina MiSeq, 2x250).

Results: The prevalence of *Salmonella* among birds was 3.1% (17/550), all of them *S. enterica* serovar Typhimurium [6/129 (4.6%) yellow legged gull, 8/97 (8.2%) Audouin's gulls and 2/324 (0.6%) pigeons]. Regarding patients, only S. Typhimurium strains from faecal samples were analysed, n=36. 25/36 (69.5%) human samples and 9/17 (52.9%) animal samples were identified as monophasic species. The percentage of resistance to ampicillin, amoxicillin-clavulanic acid and trimethoprim/sulfamethoxazole was 97.6%, 4.9% and 4.9% among human strains, respectively, and 52.9%, 5.9% and 0% among animal strains. All S. Typhimurium were susceptible to aminoglycosides and quinolones. The PFGE showed different clusters for the human, yellow legged gull, Audouin's gull and pigeon's strains. However 100% similarity was found in three cases between a clinical strain and bird strains (yellow legged gull in two cases and Audouin's gull in one). This was confirmed by WGS.

Conclusions: Although the prevalence of *Salmonella* among gulls and pigeons in Barcelona is low, we found a clonal relationship between human and bird strains. Antibiotic resistance in the isolates was low, but future studies are needed to further analyzed the role of these birds in the transmission of salmonellosis to humans.