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P0745 Interventional study of bone and joint infections related gut dysbiosis (OSIRIS) - study design and baseline characteristics

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Background: Bone and joint infections (BJI) often required a prolonged antimicrobial chemotherapy that can affect the gut microbiota. Few days of treatment are sufficient to induce dysbiosis, an intestinal disorder characterized by accumulation of microbiota imbalance, host-microbiota crosstalk dysfunction and inflammation. Dysbiosis and antibacterial pressure can favor the selection of Multi Drug Resistant Bacteria (MDRB). The OSIRIS project is a multicenter interventional study investigating the impact of antibiotics on clinical condition and microbiota in patients with BJI treatment. The aim is to analyze relationships between antibiotics and dysbiosis in order to evaluate the potential of Fecal Microbiota Transfer (FMT) as a strategy to restore the gut ecosystem. Here, in a first step of the global study, we investigated the emergence of MDRB and *Clostridium difficile* in gut microbiota of BJI patients with a prolonged antimicrobial therapy.

Materials/methods: Fecal samples from patients treated for BJI were collected along 3 visits: start of the antibiotherapy (V1), end of the treatment (V2), 2 weeks after V2 (V3). Carriage of ESBL/CPE/VRE/MRSA in stools was screened by plating on selective chromogenic media (bioMérieux). Antimicrobial phenotypes were confirmed by disk-diffusion method. The presence of *Clostridium difficile* was tested by PCR (C diff GeneXpert).

Results: Sixty-two patients have been included from January to September 2017. Seven patients have been excluded during the follow-up. Nine patients had carriage with MDRB at baseline (9 ESBL). Among the 36 patients without MDRB at baseline and for who V2 data were available, acquisition of ESBL was detected for 6 patients (17%). Additional acquisition of MDRB at V3 was detected in 5 patients (14%) (3 ESBL, 1 CPE, 1 MRSA,). Concerning *C.difficile*, one patient was positive at baseline and 2 acquisitions were detected (6%). Overall, the global MDRB and *C.difficile* carriage at V3 represented 40% of all patients among who 31% became carrier between V1 and V3.

Conclusions: Preliminary results from OSIRIS study highlighted that long-term antimicrobial chemotherapy favor the acquisition of resistance in gut microbiota. This data will also help in the design of clinical study using FMT to counteract the acquisition/carriage of MDRB and *C.difficile* in this specific population.