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P1093 KPC-producing Klebsiella pneumoniae gut decolonization as a collateral effect of ceftazidime/avibactam-based association therapy

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Background: Multidrug-resistant *Enterobacteriaceae* are nowadays one of the main matter of concern of medical community. Ceftazidime/avibactam is a recently approved beta-lactam/beta-lactamase inhibitor combination with activity especially against Ambler class A and C enzymes. To our knowledge, no studies have been published about its effectiveness in gut decolonization.

Materials/methods: We retrospectively analyzed all patients treated with ceftazidime/avibactam because of a KPC-producing *Klebsiella pneumoniae* (KPC-Kp) infection from May to August 2017. Ceftazidime/avibactam was administered as compassionate use. KPC-Kp gut colonization was determined by culture, phenotypic rapid immunocromatographic and molecular tests on rectal swabs. The same tests were performed to detect decolonization. Antimicrobial combination therapy has been chosen after in vitro evaluation of antibiotic synergistic activity. Other 8 KPC-Kp infected and colonized patients treated with different regimens were evaluated as controls

Results: As described in table 1, 4 patients were treated with a ceftazidime/avibactam-meropenem-fosfomycin combination therapy and all of them were cured and decolonized after a median period of 9.5 days. The 8 control patients didn't achieve gut decolonization.

Conclusions: Ceftazidime/avibactam nowadays can be defined as the most important drug against KPC-Kp and other multidrug-resistant *Enterobacteriaceae*. In addition to this, in particular cases like patients to be undergone surgery, treatment with ceftazidime/avibactam might be useful– in association with other antibiotic such as fosfomycin and meropenem – for decolonization strategies.

Table 1

Patient	***Infection***	***Therapy***	***Rectal decolonization***
Patient 1 – M	ABSSSI	Ceftazidime/avibactam meropenem and fosfomycin	Yes
Patient 2 – F	cIAI and sepsis	Ceftazidime/avibactam meropenem and fosfomycin	Yes
Patient 3 – F	Spondylodiscitis	Ceftazidime/avibactam meropenem and fosfomycin	Yes
Patient 4 – F	Surgical wound infection	Ceftazidime/avibactam meropenem and fosfomycin	Yes
Control 1 – F	Sepsis	Imipenem and tigecycline	No

Control 2 – M	Surgical wound infection	Colistin, rifampin and tigecycline	No
Control 3 – F	Sepsis	Colistin, fosfomycin and tigecycline	No
Control 4 – M	Catheter-associated UTI	Colistin, imipenem, fosfomycin and tigecycline	No
Control 5 – F	HAP	Tigecycline and fosfomycin	No
Control 6 – F	Surgical wound infection	Tigecycline and gentamycin	No
Control 7 – F	Sepsis	Tigecycline and gentamycin	No
Control 8 – F	Sepsis	Colistin, meropenem and amikacin	No