Introduction:
Carbapenemases producing (cp) Klebsiella pneumoniae (KP) infection rate ranges between 5-50% and is associated with a high mortality (19-51%). The use of ceftazidime-avibactam - a 3-generation cephalosporin plus a new inhibitor of class A (KPC), C (AmpC) and D (OXA48) ESBL, may resolve life-threatening conditions.

Methods:
Case-report of 14 patients undergoing compassionate treatment.

Results:
From April to November 2017, 14 patients (10 M and 4 F), median age 57 (IQR = 42.5-70.5) were given ceftazidime/avibactam for major KP-cp (meropenem MIC > 16) infections: (i.e. 9 bacteramia 3 secondary peritonitis and 2 UTI. 10/14 (71.5%) patients, developed a septic shock [median (IQR) SOFA score 10 (8-17)) and needed mechanical ventilation [median (IQR) 8 (4-17) days], norepinephrine infusion [median (IQR) 3 (2-5) days]; 4 patients underwent renal replacement therapy. The median treatment duration (IQR) was 14 (13-14) days. In 41.6% of cases, antibiotic-therapy therapy combination (phosphomycin and colistin) was chosen. All the patients experienced a clinical response by 72/96 hours from the ceftazidime/avibactam commencing. In 8/9 bacteraemic patients negativization of blood culture occurred by 96 hours as well as of the rectal swab in 5/14 patients. A (B) recurred and a second treatment was given. 11/14 (78.5%) patients survived, whereas death was caused by multi-organ failure. The susceptibility test of strains showed sensitivity to ceftazidime/avibactam, whereas 100% of resistance to carbapenems, quinolones and III/IV generation cephalosporin, tigecycline and piperacillin/tazobactam; 62.5% of susceptibility to fosfomycin and colistin; (v) less than 50% of susceptibility to aminoglicosides

Conclusion:
The 14 strains of KP-cp were susceptible to ceftazidime-avibactam despite the high carbapenem-resistance recorded in our ICU, because of rare identification of KP-cp VIM / NDL +. The preliminary data seems to confirm the efficacy and clinical utility of this antibiotic for the critically ill patients.