**P1234**
**Paper Poster Session**
**Colistin and polymyxin B pharmacokinetics**

# Clinical evolution of patients with Acinetobacter baumannii infection when low dose of colistin was used

Andres Martin-Aspas[1], Francisco Garcia-Colchero[2], Francisca Maria Guerrero-Sanchez[1], Daniel Gutierrez-Saborido*[1], Jose Antonio Girón-González[3]

[1]*University Hospital Puerta del Mar, Internal and Infectious Diseases, Cadiz, Spain*

[2]*Hospital San Juan de Dios, Internal and Infectious Diseases, Seville, Spain*

[3]*Universidad de Cádiz, Department of Medicine, Cádiz, Spain*

**Background:** Nowadays *A. baumannii* shows resistance to most drugs, being colistin the most used. Reported mortality rate is widely variable, especially if patients with polimycrobial infection are included. Colistin doses recommended for treatment of multidrug resistant gram-negative bacteria (loading dose followed by 9 IUM/day) are higher than previously used (8 IUM/day), but clinical data in *A. baumannii* infection are scarce. Successful treatment of infections with *A. baumannii* resistant to colistin and carbapenems has been reported using these drugs (CID 2015;60:1295). In our hospital, lower than recommended doses were used before recent knowledge. Our objective is to determine clinical impact of these low doses.

**Material/methods:** Retrospective study during one year in a University Hospital. From Microbiology department records, patients older than 14 year-old with *A. baumannii* isolation in clinical samples were included, excluding polymicrobial infections. Infection was considered according to CDC criteria. Included variables were: demographic, underlying disease, site of infection, severity of illness, directed antibiotic treatment, microbiological cure and crude mortality. Median dose of meropenem was 3 gr/day (IQR 3-3), i.v. colistin 3 IUM (IQR 3-4) and tigecycline 0.1 g/day (IQR 0.1-0.1).

**Results:** Of 122 isolations of *A. baumannii* (incidence density rate 0.71 per 1000 patient-days) only 49 were considered infections. Mean age was 55 (±18) year-old, and 80% were male. Site of infection was pneumonia in 27 patients (55%), tracheobronchitis in 16 (33%), primary bacteremia in 3 (6%) and one case of osteoarticular and skin-structure infection. Thirty two cases (65%) presented during ICU admission. Twelve patients (24%) presented with severe sepsis/septic shock. Monotherapy (MT) was used in 21 cases (43%): 11 with i.v. colistin, 7 with meropenem, 2 with tigecycline and one with nebulized colistin. Combination therapy (CT) [two drugs in 43% and three in 14%] was mainly i.v. colistin plus meropenem or i.v. colistin plus tigecycline. Patients who died had more advanced underlying disease compared to survivors according to McCabe score (ultimately or rapidly fatal 72% vs. 33% respectively, p= 0.001) or mean Charlson index (3.0 vs. 1.0, p< 0.001). There were no significant differences in 30-day mortality according to site of infection (p= 0.610), severity of illness (0.086) or number of antibiotics used (33% died in MT group vs. 21% in CT group, p= 0.514). A second episode of infection occurred in 7 (14%) patients and in 27 patients (55%) *A. baumannii* was present in cultures after treatment, representing colonization.

**Conclusions: C**rude mortality rates were not higher than previously reported, probably because severity illness was low and CT was used in more than half of the patients, but reinfection was high. Further studies are needed to define optimal colistin dose for *A. baumannii* infection.