

10. Immunology, Immune compromise & vaccinology

10b. Infections in immunocompromised hosts (incl. epidemiology, clinical features and diagnosis, treatment, excl. fungal infections)

Likely attendance

Onsite

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Background

Enterobacterales (EB) represents the main etiology of bacteremia in oncohematological patients (OH). The outcome could differ according to the species. The aim was to describe and compare the outcome of EB bacteremia episodes in OH patients according to the species involved.

Methods

We performed a prospective and observational study in 12 centers in Argentina from May 2014 to August 2019. The first episodes of bacteremia during hospitalization were included. Adult patients with different species of EB were compared. To identify risk factors for mortality (RFM), a multivariate logistic regression model was performed.

Results

550 episodes were included: *Escherichia coli* (ECO) 240, *Klebsiella* spp (KS) 250, and *Enterobacter cloacae* (EC) 60. The most frequent neoplasms were leukemia: 55% and lymphomas: 28%, and 25% received hematopoietic stem-cell transplant. Neutropenia between ECO, KS and CE was 76.7% vs. 88.8% vs. 70% ($p=0.002$), APACHE II score > 20 was 14.6% vs. 10% vs. 16.7% ($p=0.19$) and Pitt score > 4 was 4.2% vs. 6.8% vs. 3.3% ($p=0.33$). Multi drug resistance between ECO, KS, and EC was 9.6% vs. 56.4% vs. 35% ($p=0.01$), appropriate empirical antibiotic treatment was 95% vs. 78.4% vs. 91.70% ($p=0.0001$) and combined antibiotic treatment was 34.6% vs. 50% vs. 38.3% ($p=0.02$). Overall, 7 and 30-day mortality between ECO, KS, and EC were: 6.7% vs. 16% vs. 3.3% ($p=0.0001$) and 15% vs. 30% vs. 11.7% ($p= 0.0001$). Infection-related mortality at day 30 was: 54.3% vs. 74.7% vs 42.9% ($p=0.04$).

The RFM were APACHE II >20 : OR 1.8, CI95%, 1.2-3 ($p=0.009$); Pitt >4 : OR 5.2, 95% CI, 3.1-8.6 ($p=0.0001$), respiratory source: OR 3, 95% CI, 1.8-5.1 ($p=0.0001$) and KS bacteremia: OR 2.3, 95% CI 1.6-3.4 ($p=0.0001$). At the same time, OH disease in complete remission was a protective factor for survival: OR 0.4, 95% CI 0.2-0.8 ($p=0.009$).

Conclusions

Patients with KS bacteremia had higher early, late, and infection-related mortality, being an independent risk factor. These findings highlight the importance of quickly adapting the empirical antibiotic treatment to the resistance patterns of the center when this microorganism is isolated in blood cultures.

Keyword 1

Antimicrobial resistance (AMR)

Keyword 2

Sepsis and bloodstream infections

Keyword 3

Oncohematology

Conflicts of interest

Do you have any conflicts of interest to declare?

No