

EV0179

ePoster Viewing

Severe sepsis, bacteraemia & endocarditis

Bacteraemia in very elderly patients in the emergency department

Elena Laín Miranda¹, Pablo Ruiz², Pilar Soria Lozano¹, Desire Gil³, Pedro Parrila⁴, Cruz Villuendas Usón⁵, Antonio Rezusta^{*6}, Maria Jose Revillo¹

¹Hospital Universitario Miguel Servet, Microbiology, Zaragoza, Spain

²Hospital Universitario Miguel Servet. Intensive Care Unit , Zaragoza, Spain

³Hospital Universitario Miguel Servet, Zaragoza, Spain

⁴Hospital Universitario Miguel Servet. Emergency Department, Zaragoza, Spain

⁵Hums, Zaragoza, Spain

⁶Hospital Universitario Miguel Servet, IIS Aragón, Universidad de Zaragoza, Zaragoza, Spain

Background: Infectious diseases are a common cause of increased morbidity and mortality in very elderly patients and are often accompanied by serious complications, such as frequent recurrence, bloodstream infection (BSI), and organ failure. The aim of our study was to describe the characteristics of bacteremia in these patients in emergency department.

Material/methods: We conducted prospective, observational study in ED of University Hospital Miguel Servet between March 2014 and February 2016. All patients >14 years of age who registered in the ED with a clinically significant, culture-positive, bloodstream infection (BSI) were enrolled. Demographic variables, comorbidities, source of bacteremia, causing microorganism, severity and hospital mortality were recorded. Patients were classified into three age groups: 14 to 64 years (G1), 65 to 79 (G2) and ≥80 years (G3).

Results: We analyzed 429 episodes of bacteremia

Patient characteristics and comorbidity:

| Age | ≤64 N. 110(25,7%) | 65-79 N.155(36,1%) | ≥80 N.164(38,2%) | p |
|----------------------|----------------------|-----------------------|---------------------|--------|
| Female | 43(39,1%) | 75(48,4%) | 91(55,5%) | 0,0288 |
| Comorbidities | | | | |
| Diabetes mellitus | 35(31,8%) | 56(36,1%) | 45(27,4%) | 0,249 |
| Renal disease | 10(9,1%) | 18(11,6%) | 32(19,5%) | 0,029 |
| Chronic lung disease | 4(3,6%) | 22(14,2%) | 30(18,3%) | 0,0017 |
| Liver disease | 6(5,5%) | 5(3,2%) | 1(0,6%) | 0,0358 |
| Nonhematogenous | 31(28,2%) | 33(21,3%) | 23(14,0%) | 0,0156 |

| | | | | |
|---------------------------|-----------|-----------|----------|---------|
| malignancies | | | | |
| Hematogenous malignancies | 10(9,1%) | 10(6,5%) | 11(6,7%) | 0,6787 |
| Immunosuppression | 33(30,0%) | 27(17,4%) | 13(7,9%) | <0,0001 |

Source of Bacteremia: Urinary tract infection was the most common source in all 3 groups of patients (40%). Other common sources of bacteremia were similar in the elderly and the very elderly patients, including abdominal infection, primary bacteremia, skin and musculoskeletal infections. Compared with adult and elderly patients lower respiratory tract infection was more frequent in the very elderly patients (8,2% in G1, 11,0% in G2, and 8,9% in G3; $p=0,021$), and intravenous catheters infection were less frequent in the very elderly patients (8,2% in G1, 3,9% in G2 and 0,6% in G3; $p=0,003$).

Bacteriology spectrum: the 3 most common bacteria across age classes were *Escherichia coli* (223/47,3%), *Staphylococcus aureus* (42/8,9%) and *Klebsiella pneumoniae* (38/8,1%),

Compared with the adult patients, a significantly lower percentage of *S. aureus* was isolated from the very elderly patients (15,5% vs. 8,5%; $p=0,062$).

Severity: severe sepsis/ septic shock occurred in 35,5% in G1, 35,8% en G2 and 49,4% in G3 ($p=0,010$).

Mortality: Compared with adult and elderly patients mortality was greater in very elderly patients (4,5%, 8,4% vs. 20,1%; $p<0,0001$).

Conclusions: Bacteremia showed different demographic and microbiological characteristics, clinical presentations and source. These patients showed a lower frequency of immunodeficiency and nonhematogenous malignancies. Lower respiratory tract infection was more frequent and intravenous catheters infections were less frequent. *S. aureus* infections were less frequent. Severe sepsis/septic shock and mortality were greater in this group of age. The differences in source and microbiological findings in bacteremia require different choices for empirical for empirical antibiotic therapy in the oldest old population.