29th ECCMID Amsterdam, Netherlands 13 – 16 April 2019

The congress of ESCMID

P2412 Community-onset bloodstream infections due to *Pseudomonas aeruginosa*: characterisation and diagnostic predictors, results from PROBAC cohort

Alvaro Rojas*[1], Luis Eduardo Lopez-Cortés[1], Pedro Pérez-Crespo[1], Joaquín Lanz[1], Pilar Retamar Gentil[1], Jesús Rodríguez-Baño[1], Adrián Sousa-Dominguez[2], Maria Jose Blanco[3], Jose Mª Reguera Iglesias[4], Eva Leon[5], Carlos Armiñanzas[6], María Ángeles Mantecón[7], Marta Arias-Temprano[8], Jonathan Fernandez-Suarez[9], Lucía Boix Palop[10], Juan Manuel Sanchez Calvo[11], Jordi Cuquet Pedragosa[12], Afredo Jóver-Sainz[13], Clara Natera[14], Fatima Galan-Sanchez[15], Alfonso Del Arco[16], Alberto Bahamonde[17], Alejandro Smithson Amat[18], David Vinuesa García[19], Isabel Gea-Lázaro[20], Armando Reyes Bertos[21], Inés Perez-Camacho[22], Antonio Sánchez-Porto[23], Marcos Guzman[24], Berta Becerril Carral[25], Esperanza Merino[26]

[1] Hospital Universitario Virgen Macarena, Seville, Spain, [2] Hospital Vigo, Vigo, Spain, [3] Hospital Universitario Cruces, Barakaldo, Spain, [4] Hospital Carlos Haya, Málaga, Spain, [5] Hospital Virgen de Valme Emergency, Sevilla, Spain, [6] Marqués de Valdecilla University Hospital, Santander, Spain, [7] Hospital Universitario de Burgos, Burgos, Spain, [8] Complejo Asistencial Universitario de León Urgencias, León, Spain, [9] Hospital Universitario Central De Asturias, Oviedo, Spain, [10] Hospital Universitari MútuaTerrassa, Terrassa, Spain, [11] Hospital Jerez de la Frontera, Jerez de la Frontera, Spain, [12] Hospital General de Granollers, Granollers, Spain, [13] Hospital Arnau De Vilanova, Lleida, Spain, [14] Reina Sofia University Hospital, Córdoba, Spain, [15] Hospital Universitario Puerta del Mar, Cádiz, Spain, [16] Hospital Costa del Sol, Marbella, Spain, [17] Travesía Hospital, Ponferrada, Spain, [18] Fundació Hospital de l'Esperit Sant, Santa Coloma de Gramenet, Spain, [19] Hospital, Granada, Spain, [20] Hospital of Jaen, Jaén, Spain, [21] Hospital Torrecárdenas, Almería, Spain, [22] Hospital de Poniente, El Ejido, Spain, [23] Hospital de la Línea de la concepción Urgencias, La Línea de la Concepción, Spain, [24] Hospital San Juan de La Cruz, Úbeda, Spain, [25] Hospital Point Europe, Algeciras, Spain, [26] Hospital General Universitario de Alicante, Alacant, Spain

Background: Gram-negative (GN) community-onset (CO) bloodstream infections (BSI) constitute a significant public health problem. Identifying those caused by *P. aeruginosa* is important to select empiric antibiotic therapy. This study aims were (1) to describe the features of the patients with *P. aeruginosa*-CO-BSI, and (2) to identify the predictors for *P. aeruginosa*-CO-BSI among GN-CO-BSI.

Materials/methods: PROBAC is a prospective cohort including patients >13 years with BSI from 26 Spanish hospitals, between October 2016 and May 2017. Patients with *P. aeruginosa*-CO-BSI and with *Enterobacteriaceae*-CO-BSI were included. The variables collected included: demographic data; co-morbidities; Charlson, McCabe, and Pitt scores; BSI source; BSI adquisition (strictly communitary and healthcare-associated); antimicrobial susceptibility; septic shock; appropriate empiric antibiotic therapy and 30-day mortality. *P. aeruginosa*-CO-BSI independent predictors were identified by logistic regression.

Results: 2,883 patients with GN-CO-BSI were included, 96 due to *P. aeruginosa* and 2,787 due to Enterobacteriaceae. Patients with *P. aeruginosa* had median age 71 (IQR 60-80), 68.6% were males, 22.1% had a rapidly fatal McCabe score, their Charlson median score was 5.0 (IQR 3-7), 13.5% had hematologic malignancy, 19.8% received immunosuppressive therapy, 38.5% received antibiotics in the previous month, and 58.3% were healthcare-associated. Most frequent BSI sources were: urinary, abdominal and respiratory tracts (33.3%, 19.4%, and 14.0%, respectively); 7.3% had Pitt score >4, and septic shock was present in 22.7%. Overall, 12.5% *P. aeruginosa* isolates were resistant to ceftazidime, 22.5% to ciprofloxacin, 7.3% to amikacin, and 17.8% to

carbapenems. Inappropriate empiric antibiotic therapy was detected in 40.6% and 30-day-mortality was 20.8%. Multivariate analysis identified as *P. aeruginosa*-CO-BSI diagnostic predictors (adjusted OR [95% CI]: male sex (1.67 [1.04-2.68], p=0.034); rapidly fatal McCabe score (2.14 [1.19-3.85], p=0.011); hematologic malignancy (2.07 [1.05-4.08], p=0.037); previous beta-lactam use (1.85 [1.12-3.06], p=0.017); healthcare-associated-BSI (1.67 [1.02-2.72], p=0.040); Pitt score >4 (2.46 [1.05–5.74], p=0.038; and respiratory/unknown/catheter sources (3.02 [1.83 - 4.97], p= <0.001).

Conclusions: Inappropriate empiric therapy was frequent among patients with CO-BSI due to *P. aeruginosa*, and mortality was considerable. Multivariate analysis detected independently associated diagnostic predictor factors for *P. aeruginosa*-CO-BSI, which may help in empiric antibiotic therapy selection.