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ePoster Viewing

Sepsis, bloodstream and graft infections: *Staphylococcus aureus* and others

**ARE INCIDENCE AND EPIDEMIOLOGY OF ANAEROBIC BLOOD STREAM INFECTIONS REALLY CHANGING? A TEN-YEAR RETROSPECTIVE STUDY.**

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**Objectives:** Anaerobic bacteria are important pathogens in many human infections. During the last years, conflicting data have been reported regarding incidence of anaerobic microorganisms as cause of bloodstream infection (BSI). While some studies found an increase in the prevalence of anaerobic bacteremia, others documented a significant decrease thus supporting the selective rather than routine use of anaerobic bottle for culturing blood samples. Since in our institution we continue to use routinely aerobic and anaerobic blood culture (BC) bottles, we decided to evaluate the changes in trends of incidence and etiology of anaerobic bacteremia during the last decade.

**Methods:** We retrospectively reviewed all episodes of anaerobic BSI occurring at the University Hospital Gregorio Marañón of Madrid from 2003 to 2012. During the study period BC, performed according to standard procedures, were processed using the BACTEC system. Blood from each extraction was currently divided between anaerobic and aerobic atmosphere bottle and incubated for 5 days. In order to evaluate changes in incidence and epidemiology, the rate of anaerobic BSI and distribution of anaerobic species were compared during two-time periods (2003-2007 and 2008-2012).

**Results:** During the last decade, 437,448 blood samples were sent to our laboratory for culture. Of those, 40,464 BC with a recovery of significant microorganisms represent 17,855 episode of BSI. Eight-hundred and eight anaerobic microorganisms were isolated from BC, causing 692 episodes of BSI (3.9%). The most frequently isolated anaerobes were *B. fragilis* group (31.3%) and *Clostridium* spp (13.7%) and the percentage of the different species did not change during the study period. The number of BSI caused by anaerobes per 1,000 hospitalizations remained stable (1.22 cases/1000 hospitalizations from 2002 to 2006 and 1.14 cases/ 1000 hospitalizations between 2007 to 2012,  $p=0.24$ ). Two hundred and forty-five episodes of BSI (35.4%) were polymicrobial: two species were isolated in 160 cases (65.3%), three in 56 cases (22.9%) and four or more in 29 (11.8%) cases. The concomitant microorganisms were gram negative aerobic bacilli, gram positive aerobic cocci and *Candida* spp in 42.4%, 22.7% and 2% of the cases, respectively. In 74 episodes of BSI two or more anaerobic microorganisms were isolated; the recurrence rate of anaerobic BSI was 0.73%.

**Conclusion:** Our observations show the unchanged incidence and epidemiology of anaerobic BSI during the last ten-year and the importance of anaerobic bacteria as cause of BSI. In our opinion the use of anaerobic BC bottles is adequate.