

TITLE: PROFILE OF BLOOD CULTURES AND UROCULTURES IN A MEDICAL CLINIC DEPARTMENT OF AN URGENCY AND EMERGENCY HOSPITAL IN GOIÂNIA - GOIÁS

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ABSTRACT:

Urinary tract and bloodstream infections are common illness at hospital care and the frequency survey of these infections and the microorganisms antimicrobial susceptibility profile are important tools to improve the management and control of hospital care-related infections. Data from January to December 2017 were retrospectively collected, in a urgency and emergency public hospital of medium and high complexity attendance. Blood culture (BC) and uroculture (UC) reports of the Medical Clinic department were analyzed. A total of 1369 BC were performed with 121 (8,8%) positive results and 803 UC, of which 163 (20,3%) were positive ($>10^5$ Colony Forming Units/mL). Among the positive UC, 87,1% (142) were gram negative and the most frequently isolated bacteria were *Klebsiella pneumoniae* (52/31,9%), *Escherichia coli* (46/28,2%), *Pseudomonas aeruginosa* (15/9,2%), *Enterococcus* spp (14/8,5%) e *Proteus* spp. (10/6,1%). These findings are consistent with previous reports where the most frequently isolates were *K. pneumoniae*, *P. aeruginosa* and *E. coli*. The majority of BC isolates were gram negative (56,1%) and the most common pathogenic organisms were *Staphylococcus aureus* (19/15,7%), *K. pneumoniae* (17/14%), Coagulase negative Staphylococci (16/13,2%), *P. aeruginosa* (11/9,1%), e *Streptococcus* spp. (7/5,8%). These rank order and gram negative predominance are similar to the results described in a multicentre study in Brazil that revealed *S. aureus* and *K. pneumoniae* as more common in patients in wards. When the bacteria were stratified by susceptibility, at BC meropenem, ciprofloxacin, amikacin and gentamicin resistance was 20,6%, 28,8%, 8,8%, 15,5% respectively, and 25% of tested Extended spectrum β -lactamases (ESBLs) were positive. At UC, higher resistance indices than BC were observed in ciprofloxacin (51,5%), gentamicin (34,2%) and ESBLs test (40%). Meropenem (20,4%) and amikacin (7,6%) susceptibility were similar to BC. These rates of susceptibility are similar to a surveillance study managed in Latin American countries from 2013 to 2015. In 8,3% (10/121) of positives BC were isolated the same bacteria found at UC, a higher number compared to another study that showed a proportion of 3% urinary tract-related bacteremia. Ascertain the epidemiology of BC and UC can influence diagnostic evaluations and type of antimicrobial therapy, thus improving clinical decision-making.

Keywords: Epidemiology, blood culture, uroculture