

The aim of the study was to analyze the epidemiology, microbiology and antibiotic therapy of nosocomial BSI in Polish ICU patients” Wałaszek et al (2018).

Abstract:

INTRODUCTION: Nosocomial bloodstream infections (BSI) among patients in intensive care units (ICU) are the most common form of nosocomial infections and they are serious complications of the treatment process. The etiological factors of these infections and the proper antibiotic therapy can influence the effects of patient treatment. The aim of the study was to analyze the epidemiology, microbiology and antibiotic therapy of nosocomial BSI in Polish ICU patients.

MATERIALS AND METHODS: The retrospective study covered patients hospitalized in seven ICUs for adults with a general profile, located in southern Poland. The studied units participated in a multicentre standardized infection control program in 2013-2015. 2,547 patients hospitalized more than 48 hours in ICUs were qualified to the study. The study was conducted in accordance with the methodology recommended by the European Center for Disease Prevention and Control (ECDC) as part of the European Healthcare-Associated Infections Surveillance Network (HAI-Net): protocols and the criteria for BSI recognition were standardized.

RESULTS: The incidence of BSI was 7.2% per 100 admissions and the incidence density was 9.2 per 1000 person-days of hospitalization. Among 184 BSI cases, 65 cases (35.3%) were primary BSI; 87 cases were secondary BSI (47.3%) (related to an infection occurring elsewhere in the patient's body), the remaining 32 cases (17.4%) were classified as BSI of unknown origin. Mortality was 20%. The dominant etiological factors in BSI related to central venous catheter were coagulase-negative staphylococci in 20.8% of cases, but in secondary BSI it was *Acinetobacter baumannii* in 34.5% of cases. *Klebsiella pneumoniae* showed resistance to third-generation cephalosporins in 96.0% of cases; *Acinetobacter baumannii* showed resistance to imipenem in 78.8% of cases. Other beta-lactam antibiotics J01D (31.0%) and other antibiotics J01X (26.6%) were most commonly used in the treatment.

CONCLUSIONS: The BSI incidence in the studied Polish ICUs was twice as high as in other European countries, and secondary BSI were also more frequent - especially secondary to urinary tract infections. The obtained results indicate the necessity of intervention not only

in BSI prevention, but also in the field of prevention of urinary tract infections. In addition, microbial etiology and drug resistance indicate the need for urgent actions for their prevention.

Reference:

Wałaszek, M., Różańska, A., Bulanda, M. and Wojkowska-Mach, J. (2018) Alarming results of nosocomial bloodstream infections surveillance in Polish intensive care units. *Przegląd Epidemiologiczny*. 72(1), p.33-44.