The aim of this study was to compare the US and the European HAI (CDC/NHSN) surveillance definitions and criteria in diagnosis of healthcare-associated infections in Serbian trauma patients. PLoS One. 13(10), e0204893. eCollection 2018.

After three national point prevalence studies (PPS) of healthcare associated infections (HAI) conducted in Serbian acute care hospitals using US (CDC/NHSN) surveillance definitions, Serbia is about to switch to European (ECDC) criteria for the purpose of the fourth HAI PPS. The aim of this study was to compare the US and the European HAI definitions in Serbian trauma intensive care unit (ICU). Prospective surveillance was performed at two surgical-trauma ICUs of the Emergency department of Clinical Center of Serbia. HAIIs were prospectively diagnosed by experienced clinician and epidemiologists using both types of HAI definitions simultaneously. The level of agreement between two case definitions was assessed by Cohen’s kappa statistic (k). Of 406 patients, 107 (26.3%) acquired at least one HAI (total of 107 according to US definitions and 141 according to European criteria). For microbiologically confirmed pneumonia agreement...
was $k = 0.99$ (95% CI, 0.96-1.00) and for clinically defined $k = 0.86$ (95% CI, 0.58-1.00). Agreement for bloodstream infections (BSI) was 0.79 (CI 95%, 0.70-0.89). When secondary BSI was excluded from the European classification, (30.9% of all BSI), concordance was $k = 1.00$ and when microbiologically confirmed catheter related BSI were reported separately as recommended by latest ECDC protocol update, (20.0% of all BSI), concordance was 0.60 (CI 95%, 0.41-0.80). No agreement was found between CLABSI and CRI while slight agreement was found when compared CLABSI and CRI3 ($k = 0.11$; 95%CI, 0.0-0.22). Agreement for overall UTI was moderate ($k = 0.66$; 95%CI, 0.53-0.79) while for microbiologically-confirmed symptomatic UTI was perfect ($k = 1.00$). For CAUTI good agreement was observed ($k = 0.77$; 95%CI, 0.34-1.0). Microbiological confirmation of PN and UTI should be stimulated and comparison of BSI should be done with emphasis on whether secondary BSI is included.

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