



To assess the rate of device-associated infections and causative HAI etiological agents in an ICU at the National Research Center for Oncology and Transplantation (NRCOT) in Astana, Kazakhstan” Viderman et al (2018).

Abstract:

Background: Hospital Associated infections (HAI) are very common in Intensive Care Units (ICU) and are usually associated with use of invasive devices in the patients. This study was conducted to determine the prevalence and etiological agents of HAI in a Surgical ICU in Kazakhstan, and to assess the impact of these infections on ICU stay and mortality.

Objective: To assess the rate of device-associated infections and causative HAI etiological agents in an ICU at the National Research Center for Oncology and Transplantation (NRCOT) in Astana, Kazakhstan.

Methods: This retrospective, observational study was conducted in a 12-bed ICU at the NRCOT, Astana, Kazakhstan. We enrolled all patients who were admitted to the ICU from January, 2014 through November 2015, aged 18 to 90 years of age who developed an HAI.

Results: The most common type of HAI was surgical site infection (SSI), followed by ventilator-associated pneumonia (VAP), catheter-related blood stream infection (BSI) and catheter-associated urinary tract infection (UTI). The most common HAI was SSI with

Pseudomonas aeruginosa as the most common etiological agent. The second most common HAI was VAP also with *P. aeruginosa* followed by BSI which was also associated with *P. aeruginosa* (in 2014) and *Enterococcus faecalis*, and *Klebsiella pneumoniae* (in 2015) as the most common etiological agents causing these infections.

Conclusion: We found that HAI among our study population were predominantly caused by gram-negative pathogens, including *P. aeruginosa*, *K. pneumoniae*, and *E. coli*. To our knowledge, this is the only study that describes ICU-related HAI situation from a country within the Central Asian region. Many developing countries such as Kazakhstan lack surveillance systems which could effectively decrease incidence of HAIs and healthcare costs for their treatment. The epidemiological data on HAI in Kazakhstan currently is underrepresented and poorly reported in the literature. Based on this and previous studies, we propose that the most important interventions to prevent HAI at the NRCOT and similar Healthcare Institutions in Kazakhstan are active surveillance, regular infection control audits, rational and effective antibacterial therapy, and general hygiene measures.

Full Text

Reference:

Viderman, D., Khamzina, Y., Kaligozhin, Z., Khudaibergenova, M., Zhumadilov, A., Crape, B. and Azizan, A. (2018) An observational case study of hospital associated infections in a critical care unit in Astana, Kazakhstan. *Antimicrobial Resistance & Infection Control*. April 25th. .

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