

catheter placement called as Catheter-Associated Urinary Tract Infection (CAUTI). Catheterization is considered as a port of entry that lead to infection. In sepsis patients, CAUTI can significantly affect clinical outcomes. Prolonged CAUTI can worsen but can be prevented via suitable intervention, particularly in septic patients with urine catheters. To effectively prevent and manage diseases, gathering data focusing on surveillance is essential. Hence, examining multiple risk variables associated with CAUTI is vital, including age, gender, diabetes mellitus, kidney failure, frequency and duration of catheterization, and duration of antibiotic usage before urine culture. **Method:** A quantitative study using a cross-sectional design by selecting samples using total sampling was conducted at RSPAD Gatot Soebroto (n=42). All sepsis patients using catheters met the inclusion criteria. The data obtained was analysed (univariate, bivariate and multivariate), which will be presented in table and narrative format. **Results:** It was found that 21 sepsis patients with catheters confirmed CAUTI. Risk factors in septic patients with catheters that have a significant relationship with CAUTI are diabetes mellitus (p=0.013), kidney failure (p=0.005), length of stay (p=0.013), duration of antibiotic usage before urine culture (p=0.031), frequency of catheterization (p=0.028), and duration of catheterization (p=0.013). However, age (p=0.739) and gender (p=0.757) did not have a significant relationship. In the multivariate test was found that the most significant variables were kidney failure (p=0.006; OR=22.219; 95%CI=2.424- 293.744) and duration of catheterization (p=0.009; OR=19.147; 95%CI=2.070-177.149). **Conclusion :** Our findings indicate that kidney failure and duration of catheterization are the most significant risk factors for septic patient who develop CAUTIs. To enhance the clinical outcomes of sepsis patients prone to CAUTI, it is crucial to identify the risk factors as a part of treatment management and infection prevention control.

Keywords: UTI; CAUTI; sepsis patient; risk factors; Indonesia

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Factors influencing Meropenem utilization as the drug of choice in patients with pneumonia at a referral hospital in Makassar

Jessica Kwenandar, Sudirman Katu, Risna Halim Mubin and Arianin Ulfah Said Culla

Department of Tropical Medicine and Infectious Disease, Faculty of Medicine Hasanuddin University, Makassar, Indonesia

Objectives: Meropenem has become one of the most widely used antibiotics and is considered to be the drug of choice for empirical treatment in patients with pneumonia. The aim of this study is to evaluate factors associated with the use of Meropenem as a broad-spectrum antibiotic in a referral hospital in Makassar. **Methods:** In a retrospective observational study we conducted over one-month period (January- February 2024), adult patients diagnosed with pneumonia who received Meropenem were selected. We included data such as length of stay, admission to the intensive care unit, use of ventilator, basis of prescription (either empirical or culture-based), and laboratory profiles such as white blood cell count, procalcitonin levels, blood culture and resistance towards antibiotics. **Results:** Over one-month period, thirty patients admitted to our hospital with pneumonia were evaluated. Among these patients, several factors such as admission in intensive care unit, use of ventilator, and procalcitonin levels showed statically significance ($p < 0,05$) while blood culture and antibiotic resistance showed minimal impact towards utilization of Meropenem in patients with pneumonia. **Conclusions:** In conclusion, our study indicates that Meropenem usage for pneumonia treatment is significantly influenced by admission to the intensive care unit, use of ventilator, and specific laboratory parameters such as procalcitonin levels. Further research with larger scale is needed to evaluate utilization of Meropenem in clinical practices.

Key words: Meropenem; antibiotic utilization; pneumonia

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Observations of dialysis events in a tertiary care hospital outpatient dialysis unit over an eight-month period and significant measures implemented to reduce them

Navin Kumar

Introduction: A common form of Renal Replacement Therapy is haemodialysis. Haemodialysis (HD) patients require a vascular access. Because of Frequent hospitalization the HD patients are at higher risk of developing infections. Positive Blood culture, IV antimicrobial use and signs of inflammation at vascular access site are the three dialysis events that can cause substantial morbidity and mortality in patients. The objective is to identify and implement strategies to prevent dialysis events within the facility by providing appropriate analyses of dialysis events.

Methodology: A prospective surveillance study was performed between April'23 and November'23 at our outpatient HD facility. All HD patients were eligible for the study if they received HD on first two working days of the month. We conducted a pre-stage study for two months from April'23 to May'23 and collected data. After detailed analysis, implementation measures were included in month of June'23. The surveillance was regarded as a process improvement project and further data for dialysis events were collected till month of November'23. **Interventions:** The following interventions were adopted as process improvement in hemodialysis unit; 1). Revision of the current antimicrobial policy of dialysis unit 2). Implementation of Core interventions to prevent the dialysis event like hand hygiene observation, catheter/vascular access care observation, staff education, patient education, catheter removal, CHG for skin preparation, Catheter hub disinfection and regular surveillance with feedback of Dialysis events. 3). Revised policy for regular RO water plant disinfection and microbiological testing **Results:** 755 patients were reviewed for dialysis events during the 09-month study period. A total of 16 dialysis events were reported with overall dialysis events rates was - 2.09/100 patient-months. The rate of IV antimicrobial use was-1.19/100 patient-months and the positive blood culture rate was-0.92/100 patient-months Gram-negative bacilli were predominant in patients with central lines (n = 9); however, skin commensals and gram negative bacilli were also identified in patients with fistula or graft (n = 2). A reduction in dialysis events from 3.3 /100 patient days to 1.08/100 patient days was observed after the implementation of core interventions. **Conclusion:** Dialysis events were significantly more frequent in patients with tunnelled or non-tunnelled central venous lines compared to those with fistula or graft. In haemodialysis patients, good compliance with antimicrobial policy and regular monitoring of core interventions will reduce the risk of dialysis events.

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Incidence and risk factors associated with healthcare associated infection of intensive care unit inpatients at Dr. Cipto Mangunkusumo Hospital

Yulia Rosa Saharman, Indah Puspita Sari, R. Fera Ibrahim, Lie Khie Chen and Sharifah Shakinah

Department of Microbiology Faculty of Medicine Universitas Indonesia/Dr. Cipto Mangunkusumo Hospital

Background: The rate of Healthcare Associated Infection (HAI) in the ICU is five to seven times higher compared to general. The aim of this study was to determine the incidence and risk factors for HAI in the ICU at Dr. Cipto Mangunkusumo hospital. **Methods:** This study use retrospective data, adult patients age ≥ 18 years who were treated in ICU and suspected diagnosis of HAI (including Ventilator associated pneumonia, Catheter associated urinary tract infection, Central line associated bloodstream infection and Surgical site infection) in period from October 2022 – January 2023 were included in this study. We analyze the examination results of each specimen with identification, antibiotic susceptibility test and genomic data using whole genome sequencing. **Results:** There were a total of 160 specimens with 108 positive culture