Conclusion: The experience of NSI's and underreporting seems to be frequent among MS. Therefore improved education and reporting strategies are needed to encourage the awareness of MS for an effective prevention of NSI's.

56.008

Factors associated with septic shock in patients with hematological malignancies and Pseudomonas infections

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Background: Pseudomonas is a leading cause of nosocomial infections usually associated with high mortality. The aim of this study was to determine predictive factors of septic shock in patients with hematological malignancies and Pseudomonas infections.

Methods: This study was conducted in a teaching hospital (Aziza Othmana University hospital, Tunis, Tunisia) to evaluate the clinical profile of infection due to Pseudomonas species and to determine risk factors for septic shock defined according to the criteria of the American College of Chest Physicians/Society of Critical Care Medicine Consensus Conference. Statistical analysis was performed with Pearson test. Level of significance was at $p = 0.05$.

Results: Between 2001 and 2009 a total of 80 Pseudomonas isolates (77 *P.aeruginosa*) was collected in 66 patients: 52 with acute leukemia (79%),7 with lymphoma (10.5%), and 7 with other hematological disorders (10.5%). The median age was 30 years (range, 2—64years). Most common sites of the isolates were from bloodstroom (45%), and skin lesions (31.5%). Median time for microbiological documentation was 8 days (range, 0-35days) from onset of neutropenia. At least 12 patients (18.1%) had recurrent (≥ 2) infections due to Pseudomonas. The most common clinical signs observed were: skin lesions (34%), diarrhea (20%), isolated fever (18%), and respiratory symptoms (14%). Susceptibility to major anti-Pseudomonas antibiotics revealed that isolates tested were resistant to: piperacillin/tazobactam (43%), ceftazidim (31%), imipenem-cilastatin (26%), ciprofloxacin (25%), and amikacin (26%). Septic shock occured in 16.2% of episodes (13/80). Crude mortality was (19.6%,13 of the 66 patients) all caused by septic shock. For the remaining 53 patients (79.4%) median time for response to antibiotherapy was 2.5 days. In univariate analysis, factors associated with septic shock were: fever lasting for more than 3 days in patients on antibiotherapy ($p = 0.019$), Creactive protein > 150 mg/l ($p = 0.065$), serum lactate > 5mmol ($p = 0.05$), hemoglobin level < 50 g/l ($p = 0.042$), hypoproteinemia < 50 g/l ($p = 0.01$), and procalcitonin >10ng/ml ($p = 0.031$).

severe hypoproteinemia,high lactate level,and antibiotherapy >72 h before microbiological documentation are significant factors associated with septic shock and increased mortality in patients with hematological malignancies and Pseudomonas infections.

56.009

Initiatives to decrease the incidence and transmission of Clostridium difficile (C. difficile)

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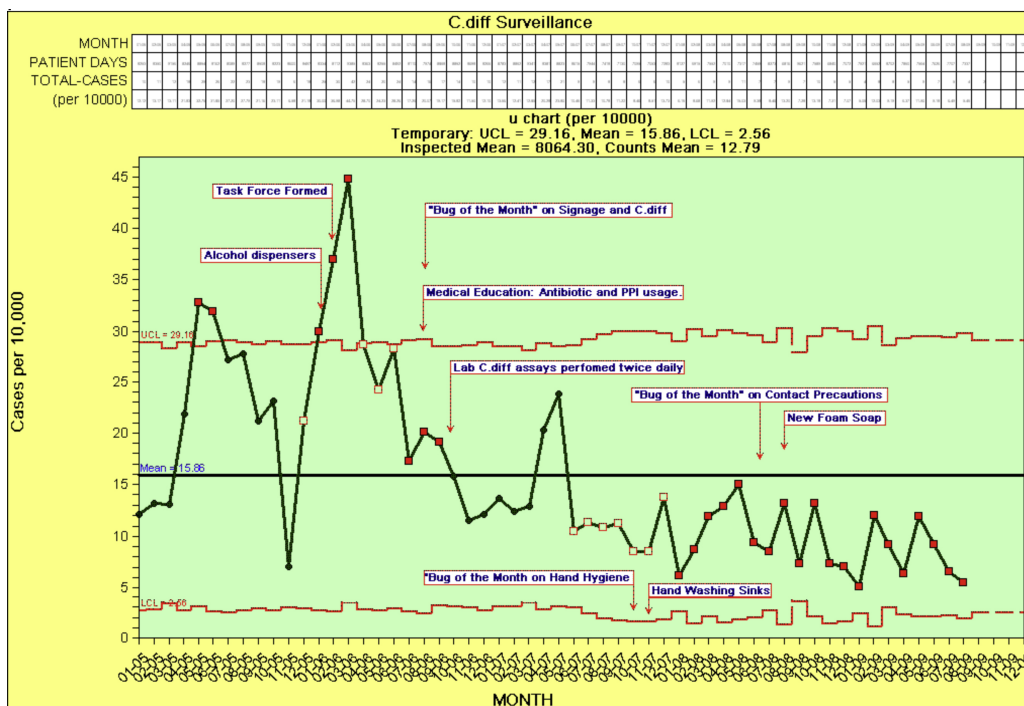
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Background: Due to the increased incidence and transmission of Clostridium difficile (C. diff) in healthcare facilities in our community, surveillance and a retrospective study for 2005 was conducted. We noted in our 2006 ongoing surveillance a gradual increase in the incidence of C. diff. in our facility.

Methods: We convened a multidisciplinary Task Force to address the increased incidence of C diff in 2006. The Task Force recommended the following actions: Contact isolation/precautions for all individuals with diarrhea, physician designed signage implemented to encourage hand antisepsis with soap and water followed by alcohol hand rinse for all patients with diarrhea, Fluoroquinolone evaluation was conducted and judicious prescribing practices for Fluoroquinolones was disseminated, yogurt twice a day was incorporated into patient's dietary regimen for those receiving antibiotic(s) or physicians whose patients disliked or were intolerant of yogurt were contacted by a dietitian to prescribe a prophylactic probiotic.

Results: Our data has demonstrated a sustained decrease in the incidence of C.diff. This was accomplished through hightened awareness of judicious prescribing of fluoroquinolones, institution of proper isolation/precautions of patients, by the addition of yogurt to patient dietary regimen or probiotic therapy, and staff acceptance and utilization of new hand hygiene products.

Effective initiatives in decreasing the incidence of C.diff

Conclusion: A sustained decrease in the incidence of C.diff over the last 3 years is attributed to the implementation of all the Task Force recommendations.

doi:10.1016/j.ijid.2010.02.2048

56.010

Initiatives to decrease the incidence of methicillin resistant Staphylococcus aureus (MRSA)

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Background: Nationally MRSA has been identified as both a hospital and community concern. The CDC and some national healthcare organization have implemented on admission screening cultures and contact isolation in an effort to prevent transmission of MRSA in the healthcare environment. The system infection preventionists addressed this issue of universal screening cultures in 2006. Retrospective surveillance of our facility demonstrated we that we exceeded our 7.1 mean per 10,000 patient days. The Infection Control committee after reviewing our data determined that screening cultures and contact isolation on admission was not warranted. We acknowledge the seriousness of this rapidly escalating healthcare infection in our community and elected to implement a conservative approach based on clinical symptomatology, in conjunction with laboratory findings.

Methods: The Infection preventionist(s) review the daily microbiology findings, and note MRSA identification. The physical condition of the affected patient(s) is assessed for temperature, erythema, cellulitis, and drainage. Positive findings requires that the patient be placed in a private room and contact isolation precautions be instituted. Based on the recommendation of the Infection Control Committee, the practice of hand antisepsis among the medical staff has increased due to the installation of hand washing sinks in close proximity to the physicians charting area on each medical surgical unit. Hand hygiene compliance data was collected, reviewed and communicated to staff. Education was provided through general orientation, annual mandatory education, and the infection control newsletter ''Bug of the Month''. The Hand washing Team and Infection Control Week activities promoted a heightened awareness of the need for continued hand hygiene compliance. Implementing changes in hand antisepsis (new dispenser for alcohol hand rinse and foam hand soap) for increased acceptance and usage of Hand hygiene products by all healthcare workers.

Results: Through heightened awareness, proper isolation precaution implementation and increase in hand hygiene compliance we have decreased the incidence of MRSA.

Conclusion: Increased hand antisepsis compliance had a significant effect on the decreasing rate of MRSA infection in our facility. Infection control and New Product committees need to continue to investigate new products that will increase hand hygiene in healthcare workers, patients, and visitors.

doi:10.1016/j.ijid.2010.02.2049