DOES ANTIBIOTIC RESTRICTION REDUCE THE INCIDENCE OF CANDIDEMIA?

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Abstract: Background: Jersey Shore Medical Center (JSMC) is a 502-bed acute care teaching hospital located in central New Jersey. JSMC provides all tertiary services other than transplant including trauma, oncology and cardiac surgery with high volume neonatal, pediatric, medical and surgical Intensive Care Units. Since 1984, JSMC has had a closed antibiotic formulary and an antibiotic restriction program limiting access to certain antimicrobials. Currently restricted drugs include carbapenems, amikacin, ticarcillin-clavulanate, pipercillin-tazobactam and intravenous ciprofloxacin. A single 5 person infectious disease group is responsible for antibiotic approvals with the support of a clinical pharmacist. Antimicrobial resistance has not been a significant problem in our institution. We hypothesized that antibiotic controls would have reduced the incidence of fungemia.

Methods: A retrospective review of the hospital microbiology database was conducted to determine the number and percentage of candida blood stream infections (BSI) in 2001. JSMC candida BSI incidence was compared to nationally published rates.

Results: In 2001, 108 of 2096 blood cultures (5.15%), obtained from 57 patients, were positive for Candida sp. 53.7% were C. albicans, 29.6% were C. glabrata, and 10.2% were C. parapsilosis. C. tropicalis, C. lusitaniae and C. kefyr accounted for 1.9%, 0.9% and 0.9%, respectively.

Conclusions: Candida is increasingly recognized as an important nosocomial pathogen. Recent studies from large groups of hospitals suggest that approximately 4% of all BSIs and 8-9% of nosocomial BSIs are due to Candida sp. We hypothesized that a comprehensive program of antibiotic control would decrease the incidence of candidemia. These preliminary data do not support this hypothesis though it does remain possible that our rates are low compared with hospitals of similar size and complexity. Further studies are needed to identify mechanisms to reduce the rates of candida BSI.