

Abstract Number: 506

Control Number: 2009-AB-1022-IDSA
Session Type: Poster Session
Session Number: 053
Session Title: Hospital-acquired and Transplant Infections
Location: Poster Hall A
Session Time: Friday, October 30, 2009, 12:30 pm - 2:00 pm

Publishing Title: **Multidrug Resistant Acinetobacter - A Persistent Threat.**

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Abstract Body: **Background:** Increase in multidrug-resistant *Acinetobacter baumannii* (MDR ACBA) is concerning and requires a better understanding of the epidemiology of MDR ACBA colonization and infection.

Methods: A retrospective chart review of patients with MDR ACBA isolated in culture from any body site was conducted over a 21 month period between 4/2007 and 12/2008 at an urban teaching hospital in Detroit, Michigan. MDR ACBA was defined as an isolate non-susceptible to 3 or more classes of antibiotics.

Results: Of all patients with ACBA colonization or infection, 64% (189/292) were MDR. Of these, 43% (83/189) were community-onset (CO) and 56% (106/189) were hospital-onset (HO). Of the CO MDR ACBA, 53% (44/83) were admitted from home and 44% (37/83) were admitted from a long term care facility (LTCF). Antibiotic use within last 30 days and hospitalization within the past year were present in 60 (72%) and 78 (93%) of CO patients, respectively. Among patients with HO MDR ACBA, length of time from admission to isolation of ACBA ranged from 3 to 99 days (median 16 days). Infection control measures such as staff education, enhanced hand hygiene, contact isolation, surveillance cultures and daily chlorhexidine baths for intensive care unit patients were implemented. Following this, the number of patients with HO MDR ACBA decreased over time, while the number of patients with CO MDR ACBA remained the same. Majority of CO MDR ACBA isolates were from urine (38%), whereas majority of HO MDR ACBA were from sputum (43%). Of all 189 patients, MDR ACBA caused infection in 121 (64%) and colonization in 68 (36%). Pneumonia was the predominant infection overall in both groups, 48/121 (38%).

Conclusion: Longer length of hospital stay, admission from LTCF, and prior antibiotic use are risk factors for infection or colonization with MDR ACBA. Implementation of enhanced infection control measures can decrease hospital acquisition, however expansion of these measures to patients at risk for community-onset healthcare associated infections may further decrease cross-transmission of MDR ACBA in the hospital.

Author Disclosure Block: A. S. Hingwe, None..J. Douglass, None..S. Mehboob, None. M. Zervos, Pfizer Inc. Role(s): Grant Investigator, Received: Research Grant. Cubist Pharmaceuticals Role(s): Grant Investigator, Received: Research Grant. Astellis Pharma Inc. Role(s): Grant Investigator, Received: Research Grant. Johnson and Johnson Inc.

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Role(s): Speaker's Bureau, Received: Speaker Honorarium. Cubist Pharmaceuticals

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