



*Patients benefit from our partnership.*

## **Incidence of UTI and Associated Organisms in an Elderly Population.**

R. Khoury<sup>1</sup>, A. Gandhi<sup>1</sup>, B. P. Salmon<sup>1</sup>, I. Ryzhkova<sup>1</sup>, P. Gudaitis<sup>1</sup>, D. Gudaitis<sup>1</sup>, P. Sluss<sup>2</sup>, A. V. Gudaitis<sup>1</sup>. <sup>1</sup>Aculabs, Inc., East Brunswick, NJ, <sup>2</sup>Massachusetts General Hospital, Boston, MA. 2008 AACCC Annual Meeting.

### **Background**

Urinary Tract Infection (UTI) is a serious health problem, it occurs in an estimated 7-11 million women each year, with annual cost of care for these women approaching \$1.6 billion. UTI appears to be a common infection in long-term care facilities; the incidence in men is known to increase after age 40 and may be associated with prostate hypertrophy. This study was designed to determine the incidence of subacute infection in a typical long term care facility.

### **Methods**

1084 specimens were collected for urine cultures and urinalysis from residents in Long-Term Care Facilities. Urine culture was done using MicroScan Walkaway 96 conventional panels; No growth or <10,000 colonies are considered negative, cultures with > 50,000 colonies are considered positive. Patients' microorganism data was separated into 6 age groups: <50, 51-60, 61-70, 71-80, 81-90, >90, and every group was further separated by gender.

### **Results**

589 cultures were negative (49.7 %), 548 cultures were positive (46.3 %) and 47 cultures had more than 3 organisms and were considered contaminated (4.0 %). 48.8 % of the total women tested had a positive culture vs. 39.6 % of the men tested. E.Coli was the most common organism in female (37.3 %), Enterococcus Faecalis was the most common one in male (18.5 %); ESBL producing organisms accounted for 7.9 % of the total isolates with higher incidence in male (9.3 % of total isolate in men and 6.0 % in women), MRSA was 3.1 % in male and 1.6 % in female, multi-drug resistant (MDR) and Vancomycin-Resistant Enterococci (VRE) accounted for 3.2 % for both men and women. E.Coli was more common in women than men at all ages. In men age-related changes in the most common organism were observed: Enterococcus Faecalis was the most common organism for men <50 and 71-80, Klebsiella Pneumoniae in men 51-60, Proteus Mirabilis in the group 61-70, Pseudomonas Aeruginosa in 81-90 year old men, and E.Coli in men > 90.

### **Conclusion**

UTI incidence was very high in this elderly population; almost one half of the women tested had a positive urine culture. E.Coli was the most common organism in women throughout their life. The prevalence of ESBL producing organisms and MDR and VRE organisms are substantial of concern in long term care facilities because of the aging-associated risk factors [e.g., physiologic and pathologic changes, functional disability, institutionalization, use of invasive devices, and intense use of antimicrobial agents). Physicians must be aware of the incidence of and organisms associated with UTI and the limitations in the therapeutic options for such organisms.