## Abstract:

OBJECTIVE: Resistance to antimicrobials of different structural classes has arisen in a multitude of bacterial species. This may complicate the therapeutic management of infections, including those of the urinary tract. The aim of this study is to show that antibiotic resistance surveillance is essential. METHODS: A total of 11,126 urine samples were received at Sultan Qaboos University Hospital (SQUH), Muscat, Sultanate of Oman, for one year period (2001), they were cultured for bacterial pathogen and sensitivity was performed for all significant isolates. RESULTS: Eight hundred and eighty-four samples were culture positive with Escherichia coli (E.coli) (N=445) as the most common enterobacteriaceae, followed by Klebsiella pneumoniae (N=161), unidentified Coliforms (N=56) and Klebsiella species (N=33). High rate of resistance to b-Lactams was seen for all Enterobacteriaceae, maximum resistance was against ampicillin (78.6%) followed by co-amoxiclav (44.6%), but cefuroxime demonstrated the least resistance. Resistance to quinolone ranged from 4.7%-21.2% for all Enterobacteriaceae, cotrimoxazole resistance for all Enterobacteriaceae was 32.1%. Multi-drug resistance of E.coli was analyzed, 11.2% (50 of 445) were resistant to 3 or more antimicrobials and considered multidrug resistant. Among the multidrug-resistant isolates, 88% were resistant co-amoxiclav or cotrimoxazole, gentamicin 62%, ciprofloxacin 66%, and nitrofurantoin 32%. The predominant phenotype among multidrug-resistant isolates (26%; 13 of 50) included resistance to co-amoxiclav, gentamicin, and cotrimoxazole. This was the most common phenotype followed by 20%, of co-amoxiclav, cotrimoxazole and ciprofloxacin. CONCLUSION: In view of the current prevalence of multi-drug resistance among urinary tract isolates of E.coli at the SQUH (11.2%), continued surveillance will be beneficial