Are you choosing the correct antibiotic to treat male lower urinary tract infection in primary care? A cross-sectional study in general outpatient clinics (GOPC) in Kowloon East Cluster (KEC)

Chow KL(1), Chan PF(1), Lai KPL(1), Chao DVK(1)

Department of Family Medicine and Primary Health Care, United Christian Hospital and Tseung Kwan O Hospital, Kowloon East Cluster

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Introduction
Rational use of antibiotics is of upmost importance in preventing antibiotics resistance. Although less frequently encountered than in woman, lower urinary tract infections (UTI) in men is still a common encounter in primary care. However, there is still a knowledge gap about treatment of lower UTI in men in primary care setting as the current recommendations were mostly based on the antibiogram from hospital settings.

Objectives
(1) To describe the prevalence of organisms found in urine specimens in male patients presented with acute lower urinary tract symptoms in GOPCs. (2) To look for the susceptibility rate of the organisms to the two widely recommended antibiotics namely Amoxicillin-Clavulanate and Nitrofurantoin in order to find out the best empirical antibiotic in treating male UTI in primary care setting.

Methodology
A cross-sectional study on the prevalence of organisms found in the mid-stream urine specimens and their antibiotics susceptibility rate to Amoxicillin-Clavulanate and Nitrofurantoin, using secondary data analysis from all the male patients with acute lower urinary tract symptoms in three GOPC located in Tseung Kwan O district in KEC from 1st January 2013 to 31st December 2013. The results were compared with the UTI antibiogram of a regional hospital. Frequency, proportion, Chi-square test and Fisher’s exact test were used for statistical analysis.
**Result**

Results: There were a total of 79 samples included in the study period. The spectrum of organisms was found to be wider in the primary care setting with Escherichia coli (32.9%), Enterococcus species (16.5%), Proteus species (10.1%) and Klebsiella species (10.1%) only accounted for about 70% of the organisms found in the urine specimens whereas these four organisms accounted for 85% in the hospital setting. The prevalence rate of Escherichia coli, the commonest UTI pathogen, was much lower than that found in the hospital setting (32.9% vs 58.8%, p<0.001). The overall susceptibility rate to Amoxicillin-Clavulanate was significantly better than that to Nitrofurantoin (70.9% vs 54.4%, p=0.033) in GOPCs, but this was not observed in a regional hospital. The susceptibility rate of Escherichia coli to Amoxicillin-Clavulanate in the primary care setting was also higher than that in the hospital (96.2% vs 75.0%, p=0.013). Conclusion: Antibiogram from the hospital might not be a very accurate reference for primary care. Treating male patients with lower UTI empirically with Amoxicillin-Clavulanate may have a higher chance of bacteriological cure in the primary care setting.