

**OP 27****Bacterial Pathogens and Pathophysiological Parameters Associated with Urinary Tract Infections in Diabetes Mellitus Patients in Teaching Hospital Karapitiya**Gunawardena K.D.S.K.D.<sup>1#</sup>, Wijyaratne W.M.D.G.B.<sup>2</sup>, Peiris H.H.<sup>1</sup><sup>1</sup>*Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Ruhuna, Galle, Sri Lanka*<sup>2</sup>*Department of Microbiology, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka**#Corresponding author: shalanigunawardena@gmail.com*

**Background:** Urinary tract infections (UTIs) are more commonly encountered in diabetes mellitus (DM) patients. Prevalence of asymptomatic bacteriuria is more common compared to symptomatic bacteriuria in DM patients. Determination of causative pathogens and pathophysiological parameters associated with UTI in DM patients in Sri Lanka is invaluable to promote their health.

**Objectives:** To identify pathogens causing UTIs in DM patients together with their antibiotic susceptibility patterns and to determine association of certain pathophysiological parameters to UTI in DM patients.

**Methods:** A cross-sectional study was conducted among 60 DM patients attending to diabetic clinic, Teaching Hospital Karapitiya. Demographic data; age, gender, marital status, and pathological data; duration of diabetes, glycaemic control and type of treatment were collected using a questionnaire. Patients were instructed to collect clean-catch, mid-stream urine samples into provided sterile containers. Urine samples were cultured and processed according to the guidelines of Clinical and Laboratory Standards Institute. Antibiotic susceptibility test was performed using disc diffusion method. All the data were analysed using SPSS version 15.0.

**Results:** There were 7 (11.67%) positive urine cultures out of 60 samples. They all were pure growths with colony count >99. Among them 10% of the patients were asymptomatic and only 1.67% were symptomatic. There were no significant associations between diabetic UTI and each parameter of age range ( $p=0.870$ ), gender ( $p=0.402$ ), marital status ( $p=0.518$ ), type of diabetic treatment ( $p=0.601$ ) and glycaemic control ( $p=0.325$ ). However, a significant relationship was found between duration of DM and diabetic UTI ( $p=0.001$ ). *Escherichia coli* (*E. coli*) was the most frequent isolated pathogen (85.71%) followed by *Candida* spp. (14.29%). All the *E. coli* strains showed similar antibiotic susceptibility pattern. They all were sensitive to nitrofurantoin, amikacin, gentamycin and meropenem but resistant to cefuroxime.

**Conclusions:** Prevalence of asymptomatic bacteriuria is more common among patients with DM. Longer duration of diabetes for >5 years is found as a risk factor of UTI. *E. coli* is the most common pathogen among the diabetic patients having UTI.

**Keywords:** *Antibiotic susceptibility, Diabetes mellitus, Risk factors, Urinary tract infections*