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Title: Prevalence of virulent and antibiotic resistant *Klebseilla pneumoniae* isolates among kidney stone patients from tertiary care hospital of Islamabad (Pakistan)

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Kidney stone disease is one of the most common recurrent kidney problem, which affects health of individuals all over the world. Pakistan geographical distribution in stone-belt indicated high incidence of stone disease in community with prevalence ranging from (10-15%). Complicated urinary tract infection (UTI) due to obstruction of kidney stone in urinary tract is one of the threatening outcome among kidney stone patients. The prevalence of *K. pneumoniae* among stone patients was determined in tertiary care hospitals. Prevalence of *K. pneumoniae* among kidney stone patients was found to be (50%) through biochemical characterization. The percentage prevalence of hypervirulent *K. pneumoniae* isolates was found to be (29.5%). These isolates had ability to agglutinate red blood cells (67%) and partial hemolysis of sheep blood due to hemolysin production (70-75%). Although hemolysin activity was found to be greater among UTI patients and people having age greater than 30 years but these associations were found to be insignificant. Biofilm forming ability was determined and it was found that it had strong association with age group (31-50 years) having (P=0.01). Among studied antibiotics, (32.7%) isolates were found to be resistant to more than two classes of antibiotics such as sulfonamides (87%), fluoroquinolones (50-60%) and cephalosporins (70%). The most effective classes of antibiotics were found to be carbapenem and quinolones. Strong correlation was found between different virulence factors and antibiotic resistance pattern of *K. pneumoniae*. Serum resistance and biofilm ability were strongly associated with ceftriaxone (P=0.04) and (P=0.02) respectively. Overall, *K. pneumoniae* isolates which were found to be virulent and multidrug resistant were more prevalent among patients having UTI in addition of kidney stones suggesting the role of *K. pneumoniae* in development of complicated UTI in stone patients. Similarly, the significant association between antibiotic resistance pattern and biofilm forming ability is also alarming with reference to the spread of multidrug resistant *K. pneumoniae* isolates.

Biography

Saba Hanif has recently completed her M.Phil in Medical Microbiology from Quaid-i-Azam University, Islamabad., Pakistan. She has also done her M.Sc in Microbiology from Quaid-i-Azam University Islamabad, Pakistan. She worked as internee in PMAS Arid Agriculture University, Pakistan. She was also worked in Office of Research Innovation and Commercialization (ORIC) at Quaid-i-Azam University Islamabad.

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