

Abstract

Urosepsis is an important post-operative complication following open surgical interventions for urinary calculi. The patients are given antibiotics pre-operatively according to their pre-operative midstream urine culture results or empirically to prevent this complication. Despite of prophylactic antibiotics, urosepsis occurs in some of these patients. The actual pathogens which are responsible for this complication are the urinary microorganisms which are found at the site of the surgery as the injured urinary tract is exposed to them. Therefore, there is a need to review the current practice of culturing pre-operative midstream urine samples for guiding antibiotic therapy to prevent post-operative urosepsis. There are no studies published in Sri Lanka on this aspect of urosepsis following surgery for removing urinary calculi.

The objectives of this study were to compare the bacteriological profile of pre-operative midstream urine cultures and intra-operative renal pelvic urine cultures of patients undergoing open surgical interventions to remove urinary calculi and to compare the bacterial profile of the organisms isolated from post-operative urine cultures if they develop urosepsis.

There is a significant discordance observed between pre-operative urine culture isolates and intra-operative urine culture isolates and their ABST profile. In this study we found that most of the organisms (38.46% of 13 isolates), isolated from pre-operative urine cultures were coliforms and most of the organisms (44.44% of 9 isolates), isolated from intra-operative urine cultures were *E.coli*.

We could not compare the bacterial profile of post-operative urine cultures of patients who develop urosepsis as none of the patients developed Urosepsis, but, we found that most of the times the intra-operative isolates were susceptible to peri-operative antibiotics and the pre-operative isolates were not susceptible to those antibiotics. These results suggest that intra-operative renal pelvic urine cultures are more useful to prevent post-operative urosepsis than pre-operative urine cultures.



Therefore, intra-operative urine cultures should be collected from all the patients during surgery as they will be useful than pre-operative urine cultures to guide antibiotic therapy to prevent urosepsis. Empirical prophylactic antibiotic therapy should be guided by larger studies to find out the organisms and their antibiotic susceptibility of intra-operative urine cultures.