

# EPIDEMIOLOGY AND MICROORGANISM PROFILE OF PYONEPHROSIS

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## ABSTRACT

**Background:** *Pyonephrosis* is an infection of the kidneys' collecting system. Pus collects in the renal pelvis and causes distension of the kidney. It can cause kidney failure. This study aimed to describe the epidemiology and microorganism profile of *pyonephrosis*.

**Subjects and Method:** This was a cross sectional study carried out at Sultan Agung Islamic Teaching Hospital, Semarang, Central Java. A sample of 42 in-patients with *pyonephrosis* was selected for this study. The dependent variable was microorganism profile. The independent variables were age and gender. Epidemiological data were taken from the medical record. Microorganism profile and sensitivity were analyzed from pus collected from surgery. Culture was performed using Blood Agar Plate and Mac Conkey technique. Sensitivity to antibiotic was tested by CLSI diffusion method. Microorganism profile was described in percent.

**Results:** Of all 42 patients with *pyonephrosis*, 38 (90.5%) patients aged 26 to 64 years and 23 (54.76%) patients were male. Of all types of gram-negative microorganism, 12 (28.57%) were *Escherichia coli*, 5 (11.90%) *Klebsiella pneumoniae*, 3 (7.1%) *Pseudomonas aeruginosa*, and 1 (2.3%) *non typhoidal Salmonella*. Of all types of gram-positive microorganism, 2 (4.7%) were *Staphylococcus aureus* and 1 (2.3%) *Streptococcus viridans*. Only 2 (4.7%) were anaerobic bacteria. Some samples were sterile. As many as 2 (16%) were *Escherichia coli* that produces extended spectrum beta lactamase (ESBL), which is an isolate resistant to the third generation Cephalosporin. All (100%) *Staphylococcus aureus* were methicillin sensitive.

**Conclusion:** Most patients with *pyonephrosis* were adults. Percents of male and female patients were comparable. Gram-negative microorganisms outweigh gram-positive microorganism.

**Keywords:** *pyonephrosis*, epidemiology, microorganism profile.

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