# Determination of Antibiotic Resistant Gram Negative Urinary Pathogens in Pediatric Patient at Kanti Children Hospital

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**Background**

Urinary tract infection is very common infection. Most infections are not serious and can be treated with antibiotics. However, if left untreated some infections can result in kidney damage and even death. It is the most common serious bacterial illness among febrile infants and young children. Risk in the first 11 years of life for boys and girls are 1% and 3% respectively. About 40% of these children will have recurrent infections.

**Methods**

This study was carried out on 346 pediatric patients for a period of six months at Kanti Children's Hospital. Their age ranged from 2 days to 14 years of age with suspected urinary tract infection. Bacterial examination and sensitivity test was done at microbiology lab of Kanti Children's Hospital.

**Results**

The gram negative bacteria were the commonest isolates (98%) and among them *E. coli* was most prominent 78%. In infancy and early childhood rate of urinary tract infection is higher in male (33.3 per 100 cases) than in female (31.9 per 100 cases). Overall 80% of gram negative bacteria were resistant to ampicillin, 72% were resistant to cephalexin and nalidixic acid, 70% resistant to cotrimoxazole and 54% to chloramphenicol. The drug of choice for *E. coli* infection was nitrofurantoin (77% sensitive). Overall 34% of *E. coli* was resistant to ciprofloxacin. 100% sensitive antibiotics against *Klebseilla spp* were amikacin, norfloxacin and ciprofloxacin. 83% of these bacteria were resistant to cephalexin, 62% resistant to nalidixic acid, 40% to gentamycin and 33% to nitrofurantoin and chloramphenicol. For *Proteus sps.* Amikacin/gentamycin and norfloxacin were 100% susceptible. 50% resistant to ciprofloxacin, chloramphenicol, cephalexin and cotrimoxazole. 50% isolation of *Pseudomonas aeruginosa* was resistant to ciprofloxacin and 25% to norfloxacin. All the isolates were sensitive to tetracycline, gentamycin, chloramphenicol and amikacin. All of the *Citrobacter spp* were sensitive to norfloxacin, ciprofloxacin, cotrimazole, gentamycin and cephalexin. 50% of the isolates were resistant to chloramphenicol and nalidixic acid. 100% of the *Enterobacter spp* were resistant to cotrimoxazole, chloramphenicol, nalidixic acid and 50% resistant to nitrofurantoin. Ciprofloxacin/norfloxacin (quinolones) was most active; since 100% of the isolates were sensitive to these agents.

**Conclusions**

In-vitro results should be taken into account before initiating empirical therapy. Broad spectrum antibiotics should not be used if the isolate is susceptible to older drugs in order to prevent the increase in resistance.

**Keywords:** antibiotics; gram negative bacteria; pediatric patients; resistant; urinary tract infection.