

## 소변배양 검사에서 양성 소견을 보인 지역사회 획득 급성 신우신염에서 사구체 여과율에 따른 원인균 및 항생제 감수성

고신대학교 의과대학 내과학교실

신호식 · 정연순 · 임 학

### Antimicrobial Susceptibility of Causative Microorganisms according to Estimated Glomerular Filtration rate in Community Acquired Acute Pyelonephritis Presented Positive Urine Culture Test

Ho Sik Shin, Yeon Soon Jung, Hark Rim

Department of Internal Medicine, College of Medicine, Kosin University Gospel Hospital, Busan, Korea

**Background:** Ciprofloxacin has been used as one of choice antibiotics for the empirical treatment of community-acquired acute pyelonephritis (APN). However, failure of empirical therapy is often encountered. We investigated the causative organisms and their antibiotic sensitivity profile according to glomerular filtration rate (GFR) to suggest a proper empirical therapy of the disease

**Methods:** The records of patients diagnosed as community-acquired APN presented positive urine culture test were reviewed retrospectively who were admitted at Kosin University, Gospel Hospital from Jan. 01, 2000 to Dec. 31, 2009.

**Results:** In this study, 502 adult patients with community-acquired APN presented positive urine culture test were classified into non-chronic kidney disease (CKD) APN patients (336 patients, 66.9%) and CKD APN patients (166 patients, 33.1%) according to estimated glomerular filtration rate. Mean age of patients with non-CKD APN was  $59.0 \pm 16.8$  years old and that of patients with CKD APN was  $67.3 \pm 12.4$  years old. Mean age of patients with CKD APN was significantly higher than that of simple APN patients ( $p=0.0001$ ). *Escherichia coli* was the most common microorganism both in non-CKD APN (54.8%) group and in CKD APN (65.2%) group. Antimicrobial susceptibility of *E. coli* was at the low level of ampicillin (45%/10%) and trimethoprim-sulfamethoxazole (57.9%/57.6%) in each group. In contrast, ciprofloxacin (27.3%/34%), Amikacin (3.7%/10%) and cefotaxime (18%/23.5%) resistance remained at relatively lower level.

**Conclusion:** For community-acquired APNs, 3rd cephalosporin, aminoglycoside or quinolone antibiotics would be considered as one of the initial therapeutic regimen in non-CKD patients; however, they should be carefully used especially in case of the patients having CKD.

**Key Words:** 신우신염, 만성신질환, 시프로플록사신 저항성  
Pyelonephritis, CKD, Ciprofloxacin resistance