

KSN 2016 Abstract Submission

Clinical Studies : Images in Nephrology

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The usefulness of computed tomography in patients with APN

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Background: Clinical manifestations, medical history and laboratory findings in patients with acute pyelonephritis(APN) are insufficient to predict its severity and prognosis. The aim of this study was to evaluate the usefulness of renal and extra-renal findings of computed tomography (CT) in patients with APN to assist in the prognosis of patients.

Methods: The medical records of 1007 patients over 18 years of age, diagnosed with APN at Chung-Ang University Hospital between May 2010 and April 2014 were retrospectively reviewed. This study was approved by the Institutional Review Board of the Chung-Ang University Hospital (IRB No.C2013117 (1077)). Patients were divided into four groups according to radiological severity of CT scans.

Results: Clinical and biochemical parameters that were associated with a more severe disease include a higher leukocyte count, C-reactive proteins, high glucose level, and higher serum creatinine level. The incidence rates of acute kidney injury increased significantly with the grade of APN. The hospital day, and duration of antibiotics were significantly longer in the more severe groups than simple groups. The use of inotropes was significantly increased with the grade of APN. Furthermore, pelvic fluid collections, pleural effusions and a thickened gallbladder had significantly increased with the grade of APN among the extra-renal findings.

Conclusion: Patients with radiological severe APN experienced more severe clinical and laboratory manifestations and had a poorer outcome. Early imaging tests can be considered to discriminate APN radiologic grading, especially in those with a history of hypertension, diabetes, and higher age. Moreover, the presence of pleural effusion may require more time to treat the disease.

Keywords: None