

## KSN 2017 Abstract

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### clinical usefulness of unenhanced CT in APN

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**Objectives** : Unenhanced computed tomography (UCT) may be useful, but did not investigate the clinical usefulness for evaluating acute pyelonephritis. No study has been reported regarding whether UCT may be comparable to enhanced CT (ECT) as a diagnostic tool or not. We evaluated clinical usefulness of UCT, compared to ECT in patients with acute pyelonephritis.

**Methods** : We retrospectively collected clinical and radiological data of 149 acute pyelonephritis who performed UCT and ECT simultaneously in the emergency unit from tertiary hospital for 2 years.

**Results** : The average patient age was 61.2 ( $\pm 10$ ) years, and 31 (21%) of the patients were male. 99 (66.4%) of total 149 patients showed stone, perinephric infiltration and swelling, hydronephrosis suggesting infection or obstruction in UCT findings. The remaining 50 (33.6%) of patients had no abnormal findings in UCT. Seventeen patients (11.4%) had atypical clinical course, abdomen pain without costovertebral angle tenderness, sustained fever regardless of identification of resistant bacteriuria requiring additional test to accurate diagnosis in UCT. 115 (77.2%) of 149 patients have stone, perinephric infiltration and swelling, hydronephrosis, parenchymal involvement in ECT. 34 (22.8%) patients had no abnormal findings in ECT. Detection rate of stone on UCT (N=28, 18.7%) is higher than that on ECT (N=25, 16.7%). 6 (4%) of patients developed contrast induced acute kidney injury within 2 days after ECT.

**Conclusions** : We demonstrate that UCT is not inferior to ECT as an initial tool for evaluating acute pyelonephritis for screening nephrolithiasis and hydronephrosis without the risk of contrast induced acute kidney injury.

**Keywords** : acute pyelonephritis, unenhanced computed tomography, parenchymal involvement, perinephric infiltration, contrast induced nephropathy