

**Abstract Type : Poster**

**Abstract Submission No. : PO-1248**

## **Urosepsis and acute kidney injury after urine alkalization via percutaneous nephrostomy**

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**Case Study:** Urine alkalization via percutaneous nephrostomy (PCN) has been used in the treatment of urinary stone. Severe complications such as sepsis have not been reported after urine alkalization. *Enterobacter cloacae* is the rare pathogen of urinary infections, but more likely associated with nosocomial infection than other pathogens. We report a case of rapidly progressive urosepsis due to *Enterobacter cloacae* after urine alkalization via PCN.

A 77-year-old male visited the emergency department because of severe chilling sensation immediately after urine alkalization via PCN. He was hospitalized for post-renal acute kidney injury due to left ureter stone and underwent PCN insertion 3 weeks ago. After 2 times of extracorporeal shock wave lithotomy, intermittent urine alkalization at the urology outpatient department was performed. After admission, the white blood cell count decreased rapidly from 8,300/mm<sup>3</sup> to 1,000/mm<sup>3</sup> and C-reactive protein was increased. The level of creatinine was 2.8 mg/dL. Bacteriuria and pyuria were showed in urinalysis and left percutaneous drainage. Urosepsis after procedure was suspected and antibiotic treatment immediately with hydration was started. On the 2<sup>nd</sup> day of admission, fever subsided and white blood cell count increased from 1,000/mm<sup>3</sup> to 17,000/mm<sup>3</sup>(neutrophil 92.5%). Extended-spectrum beta lactamases producing *Enterobacter cloacae* was isolated from blood culture only 12 hours after sampling, and then same organism revealed on urine culture. On the 3<sup>rd</sup> day of admission, C-reactive protein decreased and leukocytosis subsided. And the level of creatinine decreased to 1.7 mg/dL. Bacterial growth was no longer observed in blood and urine culture on the 3<sup>rd</sup> day of admission. He discharged with oral antibiotic. One week later, he visited outpatient department without fever.