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Emphysematous Pyelonephritis: An Eight-Year Retrospective Review across Four Hospitals in a Single Cluster

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Objective :

Emphysematous pyelonephritis (EPN) is a rare but life-threatening infection. We aim to review our cluster's experience of managing this urologic emergency.

Patients & Methods

Case notes of patients with EPN in four acute hospitals in the KWC (PMH, CMC, KWH and YCH) were retrospectively reviewed. The patients' demographic data, clinical presentation, investigation findings, treatment and outcome were studied.

Results

From January 2003 to July 2011, 8 patients were diagnosed with EPN. Their mean age was 68.4 ± 11.7 and all except one had diabetes mellitus. Their clinical presentation included fever (37.5%), flank pain (75%) and septic shock (37.5%). Half of patients required immediate ICU admission. The diagnosis of EPN was made by CT in all of the patients. Three patients had gas extension into perinephric space (Huang & Tseng Class 3a) whilst 2 patients had abscess collection involving contiguous organs. *E. coli*, *Klebsiella* and *Proteus* spp were cultured from 87.5%, 50% and 12.5% of patients respectively. Immediate nephrectomy was performed in five patients whilst conservative treatment was adopted in three. In this latter group, one patient required subsequent emergency nephrectomy, one recovered and one died. Overall 4 patients survived to be discharged. Analysis of our small cohort revealed postoperative requirement of inotropic support to be the only factor significantly associated with adverse outcome ($p=0.029$).

Conclusions

EPN is a serious condition with significant mortality. The need for postoperative inotropic support is shown to be an adverse risk factor. Further analysis involving other local EPN patients is required for better prognostication to guide its management.