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## **Emphysematous pyelonephritis in Type 2 Diabetes – Clinical profile and management**

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**Objectives:** Emphysematous pyelonephritis (EPN) is a rare but life-threatening acute suppurative infection of the kidney among diabetics. There is no current consensus on management of EPN .

**Methods:** A prospective observational study was conducted at Department of General Surgery at RML institute of Medical sciences , Lucknow as well as at Eras Lucknow medical college , Lucknow from 2015-2018 to look for clinical, microbial profile and treatment outcome of diabetic patients with emphysematous pyelonephritis

**Results:** 76 Diabetic patients diagnosed with pyelonephritis were identified, of which 15 patients were diagnosed with EPN (26.3%). Mean duration of diabetes was  $5.3 \pm 3.3$  years. 82% patients had a glycosylated hemoglobin A<sub>1c</sub> level > 7.5. Renal dysfunction at presentation was seen in 73.3%. Escherichia coli in 11 (73.3%), *Klebsiella* sp. in 1 (6.6%), *Pseudomonas* in 1 (6.6%), and 1 each with polymicrobial and fungal UTI respectively. Of 15 EPN patients, 13 (86.6 %) survived and 1 (6.6 %) expired. 2 of them underwent nephrectomy both survived. All patients with Stage I, II and IIIa EPN ( $n = 12$ ) were managed with antibiotics with or without PCD. In EPN Stage IIIb/IV ( $n = 3$ ), all the 3 (20 %) patients were managed with antibiotics and PCD and later 2 (13.3%) needed nephrectomy. Only time to diagnosis, altered sensorium, shock at presentation and thrombocytopenia were associated with poor outcome in EPN patients ( $P < 0.05$ ) Multiple logistic regression tests showed shock ( $P = .04$ ) and disturbance of consciousness ( $P = .05$ ) on hospital admission as being the independent factors for poor outcome.

**Conclusions:** EPN in diabetics needs high index of suspicion, timely diagnosis and good multidisciplinary approach with adequate antibiotics and surgical management for better patient outcomes