ABSTRACT

A STUDY ON CLINICAL, MICROBIAL PROFILE, PROGNOSTIC FACTORS AND TREATMENT OUTCOME IN PATIENTS OF ACUTE PYELONEPHRITIS WITH TYPE 2 DIABETES MELLITUS

Background:

Pyelonephritis in diabetics can present as emphysematous or non-emphysematous pyelonephritis. Non-emphysematous pyelonephritis may present in patients with good control of blood sugars also. Prevalence of diabetes in patients with emphysematous pyelonephritis ranges from 53-90%.

Objectives:

To analyse clinical features, microbiological profile, prognostic factors and treatment outcome of acute pyelonephritis in type 2 diabetes mellitus patients.

Methods:

100 patients with type 2 diabetes mellitus presenting with clinical features and ultrasound KUB findings suggestive of acute pyelonephritis were classified based on symptoms, clinical examination, investigations, treatment given and treatment outcomes.

Results:

In our study, 81% patients had NEPN and 19% had EPN. At the time of admission, 49% patients had duration of fever >10 days, 85% of patients had loin pain.Burning micturition was present in 25% of patients, decreased urine output was seen in 9% of patients and history of vomiting was present in 13% of patients. Altered sensorium at the time of admission was present in 6% of patients. Patients presenting with shock at the time of admission was 11%.

46% had raised serum creatinine levels at the time of admission.22% had HBA1C >7.5. In the EPN group, 17 out of 19 patients had HBA1C >7.5 while it was seen in only 5 out of 81 patients in NEPN group.

Majority of cultures were positive for E.coli.

HBA1C >7.5 was found to be associated with a high risk of emphysematous pyelonephritis. Altered sensorium, shock, raised serum creatinine levels and higher classes of EPN (class 3B and 4) at the time of admission portend a poor prognosis.

In patients with NEPN, only antibiotics were used for treatment in 70% patients. In patients with EPN, PCN was done for 47.7% patients and nephrectomy done in 5.3% patients.

99% of NEPN group survived while only 47% OF EPN group survived.

Conclusion:

A high index of suspicion and early imaging studies are required to diagnose EPN in diabetics presenting with features of pyelonephritis, especially if blood sugars are poorly controlled. Majority of cases with both NEPN and EPN were found to be due to gram negative bacteria. Patients presenting with altered sensorium, shock and renal failure at presentation portends poor prognosis.EPN patients with Class I, II and IIIA can be managed successfully with either antibiotics or with additional PCN. Class IIIB and IV may need nephrectomy.

Keywords:

- EPN (Emphysematous Pyelonephritis)
- NEPN (Non-emphysematous pyelonephritis)
- Type 2 Diabetes mellitus.