Original Research Paper

Volume-7 | Issue-10 | October-2017 | ISSN - 2249-555X | IF : 4.894 | IC Value : 79.96

Pathology

A STUDY ON PYURIC DIABETIC PATIENTS – AN INSTITUTIONAL EXPERIENCE

Dr.Vinutha Gali — Senior resident, Department of Pathology, Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu.

Dr.Bheema Rao — Associate Professor, Department of Pathology, Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu.

Dr.P.Karkuzhali — Professor &HOD, Department of Pathology, Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu.

ABSTRACT Urine complete analysis is an important and early investigation for evaluation and screening of a number of diseases. In our study 100 pyuric diabetic patient's (male:female-1:1) urine samples were analysed along with their urine culture and HBA1C reports. UTI was seen in 61% and sterile pyuria was seen in 39% of the cases. The results showed that UTI was more common in females and in symptomatic patients. Proteinuria was also seen more in these patients. Further studies are needed to detect the cause of sterile pyuria in diabetic patients.

KEYWORDS : .Pyuria, bacteruria, glycosuria, proteinuria.

INTRODUCTION:

India is considered as the diabetic capital of the world with more than 40.9 million currently being affected by diabetes[1]. Diabetic patients are predisposed to recurrent infections. Urinary tract is the most important and the most common site of infection in diabetic patients. Pyuria/ Bacteruria can be recorded as occurring in increasing frequency among diabetics than in non diabetics[2]. High urine glucose content and defective host immune factors predispose to infections.

Urine complete analysis is an important and early investigation for evaluation and screening of a number of diseases

Pyuria is significant if there is more than 4pus cells/HPF in a centrifuged sample. Sterile pyuria indicates the presence of pus cells in urine without an evidence of infection on routine culture.

AIM:

To study the problem load among diabetics and assessing the risk of UTI.

MATERIAL AND METHODS:

This is a nonrandomised study done in Sree Balaji Medical College and Hospital, Chrompet, Chennai, which included in-patients and out-patients with pyuria. Data was collected from the January 2015 to June 2016.

Selection criteria: Pyuric type 2 diabetic patients above the age of 18yrs whose urine culture results was available. Pregnant patients and catheterised patients were excluded from the study.

Sample size of the study was 100 patients which included 50 male and 50 female patients. History was collected from the patients directly or from case sheets. Laboratory information was gathered from the central lab regarding urine routine analysis, urine culture and HbA1c.

Fresh urine sample was examined in the lab on COBAS U411 urine analyser, centrifugation done at 2500rpm for 5min. Microscopy done at high power field for cell counts.

Midstream specimen of urine was cultured on cystein, lactose, dextrose deficient agar for 24hrs.

RESULTS:

- Mean HbA1c in our study population was 7.3SD±1.43
- **Among UTI found in 61 patients:**
- Mean HbA1c was 7.2±1.23
- Mean UTI age was 55
- Male to female ratio was 2:2.7(26:35)
- Glycosuria was found in 19/61 patients,
- Proteinuria was found in 42/61 patients.
- **Among sterile pyuria found in 39 patients:**
- Mean HbA1c was 7.4±1.75
- Glycosuria was found in 15/39 patients,
- Proteinuria was found in 19/39 patients

Table: Laboratory results of study population

	Pyuric diabetic patients with UTI	Sterile Pyuria in diabetic pyuric patients
No of Patients	61	39
HbA1C	7.2±1.23	7.4±1.75
Glycosuria	19/61 (31.1%)	15/39 (38.4%)
Proteinuria	42/61 (68.8%)	19/39 (48.7%)

DISCUSSION:

Reported frequency of UTI in diabetic is 25.3% while 41.1% among these were females[2]. In the present study frequency of UTI is more than half of the diabetic pyuric patients, which was similar to previous studies[3].

Early detection and treatment of symptomatic UTI in diabetics is required to prevent pyelonephritis and renal abscess[4].

Available studies do not support the use of anti microbials for the treatment of asymptomatic bacteriuria among diabetes[5]. Females are at more risk of developing UTI[3], this was reemphasised by the results of our study with M:F of 2:2.69.

Sterile pyuria was seen in 39% which may be due to structural abnormalities, genitouinary TB or associated systemic diseases[3].

CONCLUSION:

Out of 100 pyuric, diabetic patients in our study, 61% were culture positive and 39% were culture negative. UTI was found more in females and in symptomatic patient. Therefore it is reasonable to suggest that diabetic pyuric patients need treatment in females, especially when symptomatic. Further studies are needed to define if diabetes itself is a cause for sterile pyuria.]

REFERENCES:

1. Kaveeshwar SA, Cornwall J. The current state of diabetes mellitus in India.AMJ 2014;7(1):45-48.
2. Al Rubeaan KA et al. Prevalance of urinary tract infection and risk factors in Saudi patients with diabetes. World J Urol. 2013;31(3):573-578.
3. HumaMamum et al. Pyuric diabetic patients: A tertiary centre experience from Karachi. Pak J Med Sci 2014;30(1):77-80.
4. Guillausseau PJ et al. Urinary tract infections and diabetes mellitus. RevPrat. 2003;53(16):1750-1756.
5. Oosi ST et al. Management of asymptomatic bacteriuria in patients with diabetes mellitus. Ann Pharmacother. 2004;38(3):490-493.