CLINICAL RELEVANCE OF ASYMPTOMATIC BACTERIURIA – A RETROSPECTIVE STUDY OF CLINICAL CHARACTERISTICS AND TREATMENT OUTCOMES AMONG DIABETICS

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INTRODUCTION

- Asymptomatic bacteriuria (ASB) is defined as the presence of a freshly voided midstream urine specimen that yields positive cultures, with at least 10^5 colony forming units/ml , of the same bacterium in a patient that does not have symptoms indicative of a UTI. Identification of the same microorganism in two consecutive cultures was necessary to confirm the diagnosis of ASB in the female participants of the study, while in male participants one positive culture is adequate
- ASB is a common finding in patients With Diabetes mellitus, pregnant women,elderly, and patients with impaired voiding [1–3].
- Treatment of ASB in patients is not recommended, except in pregnant women or prior to urological procedures.
- Determination of preventable risk factors related to ASB in patients with diabetes is important, since early recognition and management of these factors could prevent the presence of ASB in this group of patients, thus improving their quality of life and reducing associated health care costs.

OBJECTIVE

- To study the prevalence of ASB
- Identify risk factors and causative microorganisms relating to ASB in men and women with type 2 diabetes mellitus (T2D).
- Outcomes in diabetic and non diabetic patients were noted.

MATERIAL AND METHODS

- Retrospective cohort study
- At least 6 months of follow up between January 2018- December 2022.
- Patients were categorised into diabetic and non diabetic group.
- Diabetic groups were further sub-classified into 2 groups. One group which received treatment and other group which didn't receive treatment.
- Clinical characteristics of patients were noted. patients were further followed up to look for development of symptomatic UTI with or without AKI and were also followed up to look for further development of CKD.
- number of patients with symptomatic UTI and effect on renal functions were noted in subsequent visits, noted in each group

RESULTS

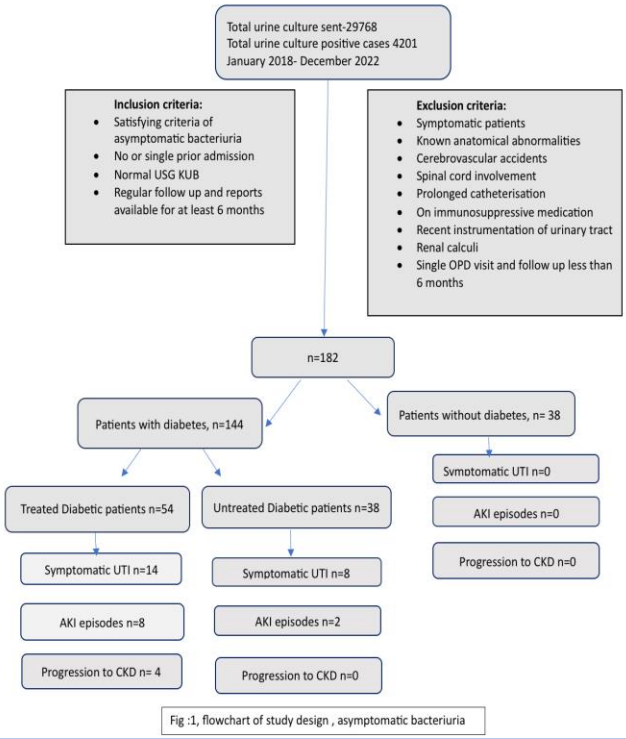
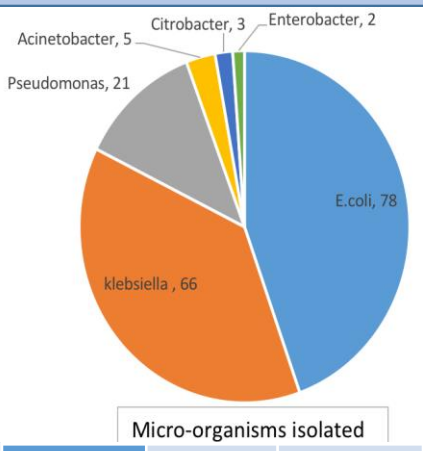


Fig :1, flowchart of study design , asymptomatic bacteriuria

Baseline characteristics	Diabetic n=144	Non diabetic n=38
Mean duration of follow up (years)	2 years ± 6 months	
Mean age(years)	69 ±6	60± 6
Gender		
• male	44	10
• female	100	28
Duration of diabetes(years)	20±6	
HbA1C	9±1.3	



Micro-organisms isolated

	Diabetic treated n=54	Diabetic untreated N= 38
1) Urine C/S		
Multi drug resistance	24	4 (p < 0.05)
Extreme resistance	14	2 (p < 0.05)
Pan drug resistance	08	0(p < 0.05)
2)Other comorbidities		
hypertension	39	6
Ischemic heart disease	12	2
Hyperlipidemia	33	5

	Diabetic Treated	Diabetic Untreated
Incidence of symptomatic UTI	14	8 (p >0.05)
Incidence of UTI with AKI	8	2 (p >0.05)
Progression to CKD	4	0(p >0.05)

DISCUSSION

- Prevalence of asymptomatic bacteriuria in our study group satisfying inclusion criteria and exclusion criteria was 4%, Diabetics group affected more than non diabetics. Aylin Çalica Utku*et al
- No specific risk factors were found among non diabetics, with no other complication.
- Elderly , female sex, longer duration and uncontrolled diabetes were found to be possible risk factors for asymptomatic bacteriuria among diabetics group.
- E coli was found to be most common organisms isolated.
- Among diabetics sub groups who received treatment, majority were found to have drug resistance urinary tract infection and presence of other co-morbidities like ischemic heart disease, hypertension and hyperlipidaemia.
- Risk of symptomatic urinary tract infection in subsequent visit, and AKI episodes were similar in both groups, probably suggesting treatment could have reduced further episodes in treated group. Bashir A. Laway et al

CONCLUSION

- Treatment of ASB in diabetics with no significant risk factors and non diabetics is not required
- However in diabetic patients with risk factors, drug resistance infection and multiple co-morbidities treatment could be considered.

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