

Introduction

Urinary tract infection [UTI] occurs in the urinary tract .It is caused by microorganisms,most often by bacterial species .The urinary tract comprises of kidney,ureter ,bladder and urethra .Based on their infection site UTI affects the bladder where they cause cystitis ,pyelonephritis(kidney),prostatitis(prostate).whereas bacteriuria is one of the symptoms that could be observed in all UTIs.

This infection is known to cause short term-morbidity in terms of fever ,dysuria,lower abdominal pain (LAP) and may cause permanent damage to kidney **(Hober A,et al .2003)**.

A person gets urinary tract infection because of various reasons like not proper personal hygiene and chronic morbidity .Urinary tract infection can be acquired from hospital also,which is community acquired or noscomial. Community acquired infection are the infection that takes place in the hospital environment with less than 48 hours of admission without any previous health care environment .Noscomial can be defined as those occurring in with in 48 hours of hospital admission ,3 days of discharge or 30 days of an operation .

This infection can be symptomatic or asymptomatic.Symptomatic UTIs shows symptoms like a strong persistent urge to urinate ,urine that appears cloudy,strong smelling urine ,pelvic pain and a burning sensation when urinating and bad abdominal pain

during sitting and getting up .While ,asymptomatic UTI can be defined as which is not showing any symptom even if there is a presence of bacteria in urine (Bacteriuria).

UTI can be classified as :

1. Complicated or uncomplicated
2. Primary or recurrent

1) Uncomplicated UTI refers to a lower urinary tract infection in either male or female who are otherwise healthy(no comorbidities,no known urologic abnormalities).

Complicated UTI refers to an infection which is associated with the factor that increases the likelihood and danger of the infection and threatens the life of patient.failure of Antibiotic therapy can also be a risk factor of complicated UTI .

2)Primary or recurrent UTI depends on the nature of occurrence .

Several factors such as urinary catheter ,gender ,age , urinary incontinence ,pregnancy ,Asymptomatic bacteriuria ,poor immunity and chronic morbidity like diabetes and genitourinary tract abnormalities

(Mladenovic j,et al.2015) are the significant risk factors for recurrent UTIs .

As the UTI is caused by bacteria the most commonly isolated one is E.coli followed by Staphylococcus aureus,S. saprophyticus .Proteus mirabilis ,K.pneumoniae,Pseudomonas aeruginosa ,Enterococcus and Enterobacter **(Manges A.R, et al.2006) .**

About 150 million people suffer from UTI each year globally which results in greater than 6 billion dollars expenditure in direct health care **(Stamm W.E, et al .2001)** .

Bacterial count is an important parameter to signify the presence of an infection in urine sample .The Bacterial count of 100000 or more colony forming unit (CFU) per ml of urine is considered appropriate to diagnose UTI(Stamm, et al.1982) . The infectious disease society America (IDSA) gave a slightly more relaxed consensus definition requiring 10^3 organism per ml to diagnose cystitis and 10^4 per ml for pyelonephritis (Hooton TM, et al.1997) .

The clinical manifestation of UTI depends on the site of infection like which part of urinary tract is affected or involved ,on the pathogenic organism ,the severity of infection and patients immunity.

Various Antibiotics are used to treat UTI and the effectiveness of antibiotics depends on the resistivity of uropathogen so specific antibiotic is used to reduce the affect of specific uropathogen and to eliminate the infection .

Antibiotics like Fosfomycin is the most potential drug against both Gram positive and Gram negative bacteria or uropathogen like E. coli ,Enterococcus and Staphylococcus species (Manzoor Ahmad ,et al.2020) followed by Nitrofurantoin .

This study is aimed to Analyse the Bacterial profile of UTI and Antibiotics susceptibility pattern of

uropathogen in a tertiary care hospital (Jawahar Lal
Nehru Medical College ,AMU,Aligarh ,UP) .