



## Urinary Tract Infection during pregnancy

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### **Abstract:**

**Background:** Urinary tract infections, or UTIs, also called **bladder infections**, and women can often experience them during pregnancy. Urinary tract infections in pregnancy may have side effects for both the mother and the baby. According to one study from the Centers for Disease Control and Prevention (CDC), 8% Trusted Source of pregnant women experiences a UTI. UTIs start in week 6 and go to peak during weeks 22 to 24, because of changes in the urinary tract.

**Aim & Objectives:** Identify Urinary tract infection in pregnant women, prevalence of UTI, diagnosis and treatment.

**Material and methods:** - In the duration of 6 month study a total of 162 pregnant women tested positive for UTI and we detect them through routine and automated methods like Urine routine microscopy and urine culture method.

**Result:** During pregnancy, the urine contains more glucose, protein, and hormones and that put the patient at the highest risk for UTI. Out of 303 pregnant women, 162(53.5%) women tested positive for a urinary tract infection. Among the microorganisms isolated from urine culture of pregnant women, *Escherichia coli* was the most common (37%) followed by *Pneumococcus pneumoniae* (27%) and *Staphylococcus saprophytic* (3.7%) was the lowest.

**Key Words:** Urinary Tract Infections, Pregnant Women, *E.coli*, *Pneumococcus pneumoniae*, Urinalysis.

### **1. INTRODUCTION:**

Most of the urinary tract infections are caused by bacteria. Anyone can get this infection, but it is most common in ladies and can be more serious during pregnancy (4). These infections are usually occurred in the bladder and urethra. However, it may sometime cause kidney infections. Urinary tract infections can lead to premature births (births too early) and low birth weight (5). These changes, along with the already short urethra (about 3-4 cm in women) and hygiene issues due to pregnancy dilatation, help make UTIs the most common bacterial infection during pregnancy (6). Microorganisms that cause UTIs during pregnancy are the same urinary tract pathogens that commonly cause UTIs in non-pregnant patients. Fortunately, UTIs during pregnancy are often not easily treatable with surprising results (7). UTI is not effective. It poses a risk to the developing fetus, and infection during pregnancy is usually asymptomatic. Untreated UTIs can progress to a much more serious kidney infection. This is very much important to treat the kidney infections during pregnancy because they can cause serious complications for all mothers and babies (8). Urinary tract infection itself does not cause miscarriage, but can cause complications. "if left untreated [UTI], the infection can travel up to the kidneys and cause a very serious systemic infection called sepsis that can lead to miscarriage (9). It is therefore recommended that all pregnant women undergo a comprehensive urinalysis and urine culture at 12-16 weeks or during the first prenatal visit. "Although mild painful urination during pregnancy can often be a yeast infection rather than a UTI, it's best to see a healthcare professional if anyone is experiencing symptoms. First, asymptomatic UTIs diagnosed during the first trimester are treated with antibiotics, whereas infections in non-pregnant women are usually not treated this way (1 2 3). (Outside of pregnancy, asymptomatic bacteriuria is usually not treated with antibiotics.)

### **2. SIGN AND SYMPTOMS OF UTI DURING PREGNANCY:**

- (10) "Minor painful urination during pregnancy can often indicate a yeast infection rather than a UTI, but the study indicates that approximately 18% of UTIs occurring during pregnancy are symptoms of UTIs (11).



Common symptoms of UTIs during pregnancy are similar to those of UTIs. Clear, red, pink, or dark urine, a feeling of full bladder even after urinating, pain, pressure or pain in the bladder area, changes in urine volume, etc. Or less. Sometimes the first sign of infection is a faint tingling sensation when urinating. If the infection is more advanced and has travelled to the kidneys, people may experience a fever, especially with high fever, back pain, and vomiting.

### 3. TREATMENT:

This is similar to how UTIs are treated when not pregnant. short-term antibiotics are the standard treatment for both asymptomatic and symptomatic urinary tract infections (12). UTIs are treated with safe antibiotics during pregnancy. Commonly recommended medications for uncomplicated UTIs are (13):

- Trimethoprim/sulfamethoxazole (Bactrim, Septra, others)
- Fosfomycin (Monurol)
- Nitrofurantoin (Macrochantin, Macrobid)
- Amoxicillin. (Amx)
- Cephalexin (Keflex)
- Doxycycline (Doryx)

**Table-1: Antibiotics uses during pregnancy.**

1.Safe antibiotics	amoxicillin cephalexin fosfomycin
2.Antibiotics to avoid	ciprofloxacin nitrofurantoin sulphamethoxazole trimethoprim

Do not stop taking antibiotics as symptoms will go away and you will feel better. however, patient may need to continue taking antibiotics for a week or more (14). take antibiotics completely as directed. if the infection is not completely treated with a full course of antibiotics, then it may occur again.

### 4. METHODS TO PREVENT UTI DURING PREGNANCY:

- Drink **6-8 glasses of water every day** water helps to dilute your pee and flush out bacteria) (15).
- **Practicing great cleanliness:** wipe the seat of the lavatory in a public bathroom before use. women should also use good hygiene practices during their pregnancy time to keep away from contaminations. wipe from the front to the back after going to the washroom. avoid using harsh soaps or body washes in the area as these may cause itching and irritation (16).
- Avoid wearing tight-fitting jeans and try to wear cotton underwear.

Urinate before and after intercourse. this could help flush out any bacteria that might have been presented during intercourse.

### 5. MATERIALS:

**Table-2: List of Materials to detect UTI's by different methods.**

1.EQUIPMENT FOR U R/M	<ul style="list-style-type: none"> <li>• Sterile container</li> <li>• Test tube</li> <li>• Centrifuge</li> <li>• Glass slides</li> <li>• Microscope</li> </ul>
2.EQUIPMENT FOR U C/S	<ul style="list-style-type: none"> <li>• Sterile loop</li> <li>• Culture plate</li> <li>• Streaks</li> </ul>
3.EQUIPMENT FOR U S/G	<ul style="list-style-type: none"> <li>• Ultrasound machine</li> </ul>



4.EQUIPMENT FOR CYSTOSCOPY	<ul style="list-style-type: none"> <li>• Cystoscope</li> <li>• Video system</li> <li>• An irrigating medium</li> </ul>
5.EQUIPMENT FOR CT SCAN	<ul style="list-style-type: none"> <li>• CT Scanner</li> </ul>

**6. METHOD:**

**Urinalysis:** U R/M (urine routine microscopy): By this test anyone can detect (RBC's) red blood cells, (WBC's) white blood cells, and bacteria from urine sample. the increased number of white blood cells and red blood cells found in the urine can actually indicate an infection (18).

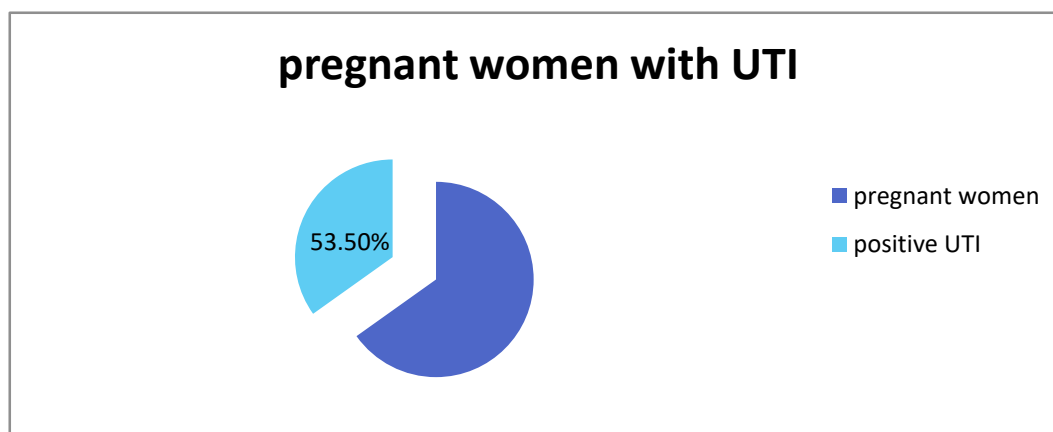
**Urine culture:** A urine culture is used to determine the type of bacteria present in the urine. this is an important test because it will help you choose the right treatment. if no growth is observed, the culture is negative. if anyone is pregnant, the obstetrician may request a urine culture test at various stages of prenatal care as a preventive measure (19).

If the infection does not respond to treatment or continues to be infected, the doctor may use the following tests to determine the illness or injury to the urinary tract: 1. ultrasound 2. cystoscopy 3. CT scan.



**7. RESULT:**

The study was conducted at HAHC hospital, Jamia Hamdard, New Delhi. Out of 303 pregnant women, 162 (53.5%) women tested positive for a urinary tract infection. Among the microorganisms isolated from urine culture of pregnant women, *Escherichia coli* (E coli) was the most common (37%) followed by *Pneumococcus pneumoniae* (27%) and *Staphylococcus saprophytic* (3.7%) was the lowest. Studies have shown that amoxicillin and cefoxitin (40.1% and 21.6%, respectively) are the most commonly used antibiotics to treat urinary tract infections by infected women.



**Chart-2: Pregnant women with UTI**

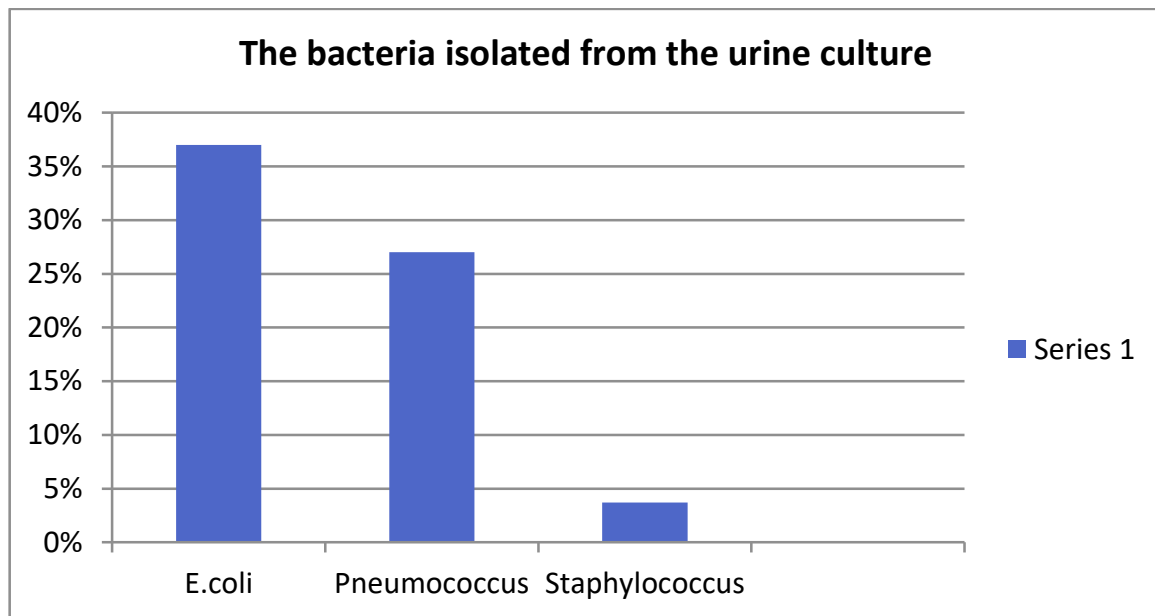


Chart-3: The bacteria isolated from the urine culture

## 8. CONCLUSION:

This article reviewed the incidence of UTIs during pregnancy, including signs and symptoms, diagnosis, and treatment. The review also includes precautions that pregnant women can use to prevent the development and recurrence of UTIs.

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