

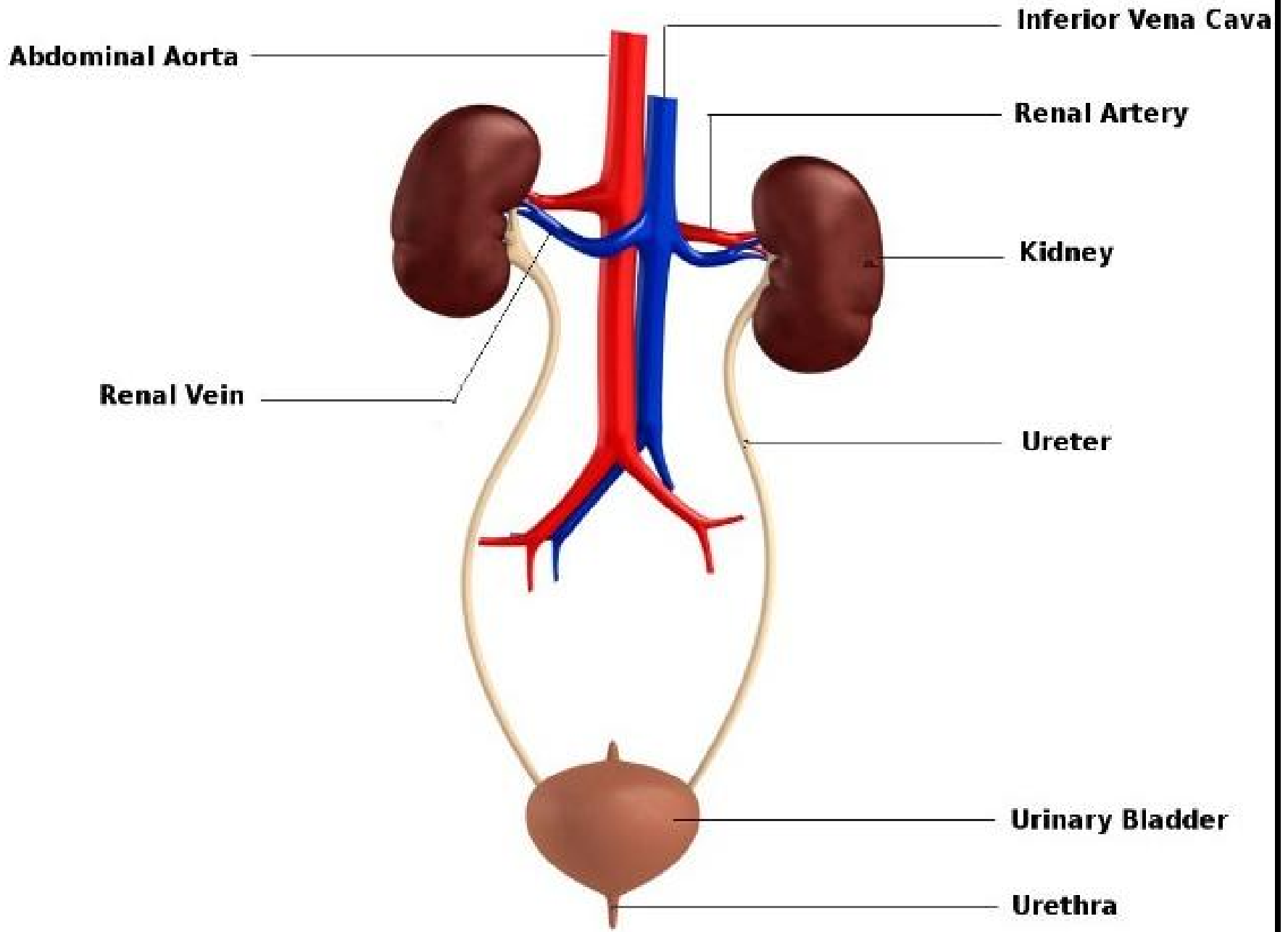
DISORDERS OF GENITO URINARY SYSTEM

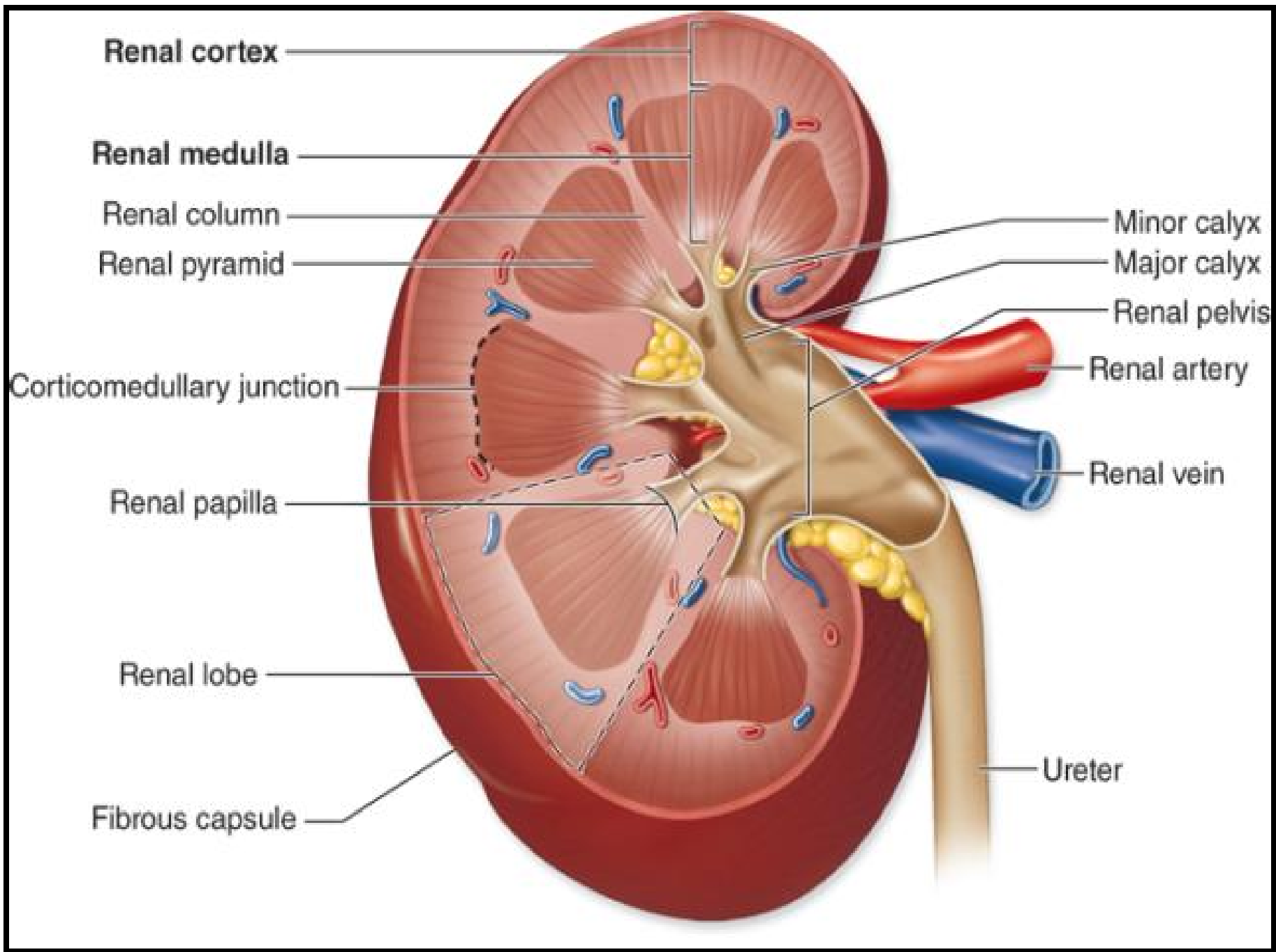
M.S.N.-1

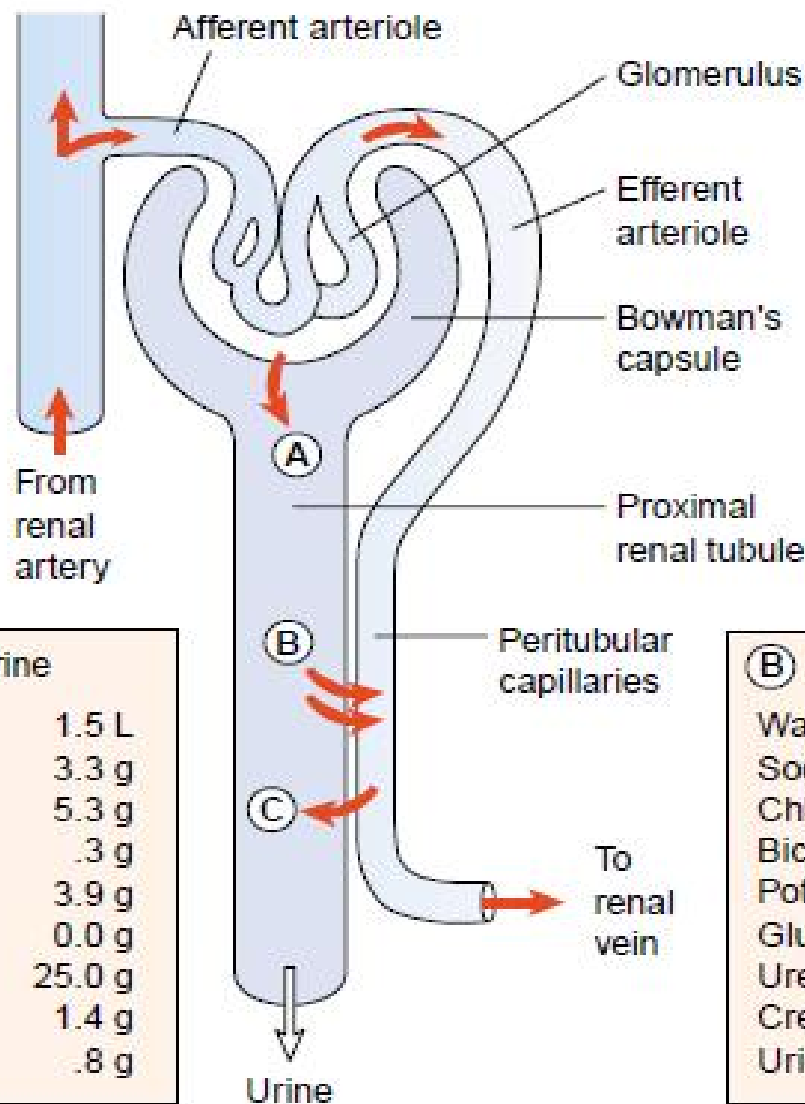
UNIT - 6



**BY- AHMED SODHA
M.Sc.(N)- M.S.N.**







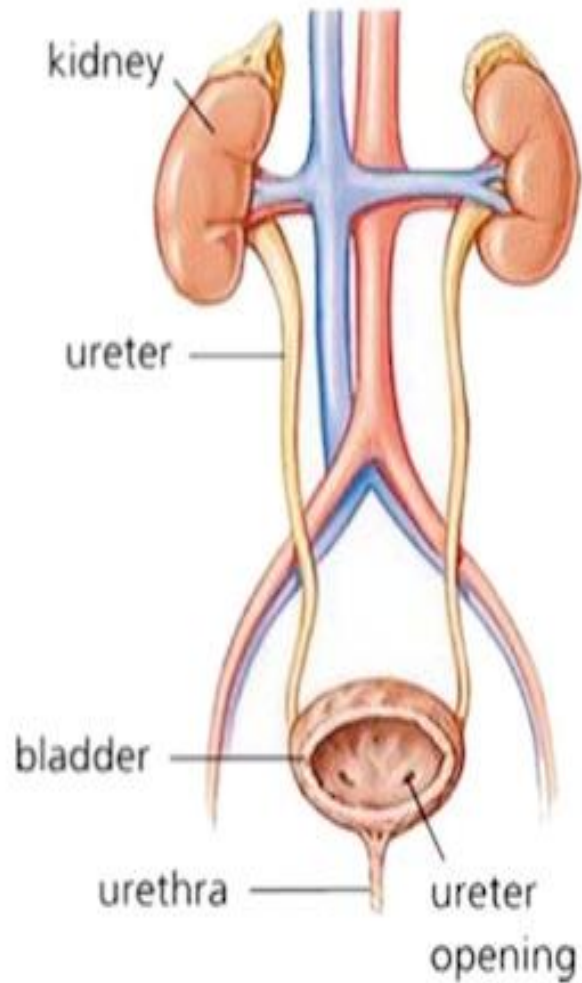
Ⓐ Filtration At Glomerulus	
Water	180 L
Sodium	540.0 g
Chloride	630.0 g
Bicarbonate	300.0 g
Potassium	28.0 g
Glucose	140.0 g
Urea	53.0 g
Creatinine	1.4 g
Uric acid	8.5 g

Ⓒ Excretion In Urine	
Water	1.5 L
Sodium	3.3 g
Chloride	5.3 g
Bicarbonate	.3 g
Potassium	3.9 g
Glucose	0.0 g
Urea	25.0 g
Creatinine	1.4 g
Uric acid	.8 g

Ⓑ Reabsorption Into Tubule	
Water	178.5 L
Sodium	537.0 g
Chloride	625.0 g
Bicarbonate	300.0 g
Potassium	24.0 g
Glucose	140.0 g
Urea	28.0 g
Creatinine	0.0 g
Uric acid	7.7 g

FIGURE 43-3 Urine is formed in the nephrons in a three-step process: filtration, reabsorption, and excretion. Water, electrolytes, and other substances, such as glucose and creatinine, are filtered by the glomerulus; varying amounts of these are reabsorbed in the renal tubule, or excreted in the urine. Typical normal volumes of these substances during the steps of urine formation appear above. Wide variations may occur in the values depending on diet.

URINARY TRACT INFECTION



q URINARY TRACT INFECTION (UTI)

“ UTI IS AN INFECTION IN ANY PART OF YOUR URINARY SYSTEM — YOUR KIDNEYS, URETERS, BLADDER AND URETHRA”

- URINARY TRACT INFECTIONS (UTIS) ARE CAUSED BY PATHOGENIC MICROORGANISMS IN THE URINARY TRACT (THE NORMAL URINARY TRACT IS STERILE ABOVE THE URETHRA).**
- URINARY TRACT INFECTIONS ARE MORE COMMON IN WOMEN.**
- UTI USUALLY OCCUR IN THE BLADDER OR URETHRA, BUT MORE SERIOUS INFECTIONS INVOLVE THE KIDNEY.**

q CLASSIFICATION:- URINARY TRACT INFECTIONS (UTI) ARE CLASSIFIED BY LOCATION:

1. THE LOWER URINARY TRACT - LUTI (WHICH INCLUDES THE BLADDER AND STRUCTURES BELOW THE BLADDER) OR

2. THE UPPER URINARY TRACT - UUTI (WHICH INCLUDES THE KIDNEYS AND URETERS).

3. UNCOMPLICATED UTI (COMMUNITY-ACQUIRED INFECTION; COMMON IN YOUNG WOMEN)

4. COMPLICATED UTI OFTEN NOSOCOMIAL INFECTION AND RELATED TO CATHETERIZATION; OCCURS IN PATIENTS WITH UROLOGIC ABNORMALITIES, PREGNANCY, IMMUNOSUPPRESSION, DM

ØUUTI INCLUDES :-

- PYELONEPHRITIS
(INFLAMMATION OF THE RENAL PELVIS),
- INTERSTITIAL NEPHRITIS
(INFLAMMATION OF THE KIDNEY),
- RENAL ABSCESS (PUS COLLECTION IN KIDNEY)

ØLUTI INCLUDES :-

- CYSTITIS
(INFLAMMATION OF THE URINARY BLADDER),
- PROSTATITIS
(INFLAMMATION OF THE PROSTATE GLAND),
- URETHRITIS (INFLAMMATION OF THE URETHRA).

q ETIOLOGY:- UTI TYPICALLY OCCUR WHEN BACTERIA ENTER THE URINARY TRACT THROUGH THE URETHRA AND BEGIN TO MULTIPLY IN THE BLADDER.

- ALTHOUGH THE URINARY SYSTEM IS DESIGNED TO KEEP OUT SUCH MICROSCOPIC INVADERS, BUT THESE DEFENSES SOMETIMES FAIL.
- BACTERIA - ESCHERICHIA COLI (E. COLI) VERY MOST COMMON. STREPTOCOCCUS, STAPHYLOCOCCUS, KLEBSIELLA, ENTEROCOCCI, PSEUDOMONAS.
- VIRUS - RUBELLA, MUMPS, HERPES SIMPLEX
- FUNGI - CANDIDA & HISTOPLASMA CAPSULATUM
- SEXUALLY TRANSMITTED INFECTIONS, SUCH AS HERPES, GONORRHEA, CHLAMYDIA AND MYCOPLASMA
- SEXUAL INTERCOURSE
- NOT MAINTAINING PERINEAL HYGIENE
- NOSOCOMIAL INFECTION

q P.P.:-

DUE TO ETIOLOGY (ASCENDING INFECTION)



ORGANISMS ENTERS VIA URETHRA



ATTACH TO EPITHELIUM LAYERS



DEVELOPING COLONIES IN URETHRAL EPITHELIUM



GRADUALLY ASCEND TO BLADDER



DEVELOP INFLAMMATION OF URETHRA & BLADDER

q P.P.:-

DUE TO ETIOLOGY (DECENDING INFECTION)



ORGANISMS ENTERS INTO GLOMERULUS FROM BLOOD



ORGANISMS REACH TO RENAL PELVIS



DEVELOP COLONIES IN RENAL PELVIS



INFLAMMATORY PROCESS BEGINS



INFECTION DESCEND RENAL PELVIS TO URETERS

q C.M.:-

- UPPER BACK AND SIDE (FLANK) PAIN
- HIGH FEVER
- NAUSEA
- VOMITING
- PELVIC PRESSURE
- LOWER ABDOMEN DISCOMFORT
- FREQUENT, PAINFUL URINATION
- BLOOD IN URINE
- BURNING WITH URINATION
- PYUREA
- BACTERIUREA

q D.E.:-

- H.C. & P.E.
- BLOOD TEST
- URINALYSIS (ANALYSIS FOR COMPONENTS, COLOR, ODOUR, APPEARANCE, ORGANISMS)
- URINE CULTURE TEST (GROWING ORGANISMS IN LAB BY DIFFERENT CULTURE METHODS)
- USG
- CT-SCAN
- MRI
- CYSTOSCOPY (VISUALIZING URINARY TRACT THROUGH CYSTOSCOPE)

q TREATMENT:- ANTIBIOTICS USUALLY ARE THE FIRST LINE TREATMENT FOR URINARY TRACT INFECTIONS

Ø ANTIBIOTICS:-

- FLUOROQUINOLONES (CIPROFLOXACIN, LEVOFLOXACIN)
- AMPICILLIN / AMINOGLYCOSIDE COMBINATION
- TRIMETHOPRIM/SULFAMETHOXAZOLE
- FOSFOMYCIN
- NITROFURANTOIN
- CEPHALEXIN
- CEFTRIAXONE

Ø ANALGESICS

Ø ANTIPYRETICS

Ø ANTIVIRAL

Ø MAINTAIN PERINEAL HYGIENE

Ø USE CONDOMS DURING SEX / WASH GENITAL ORGAN PROPERLLY AFTER SEX