



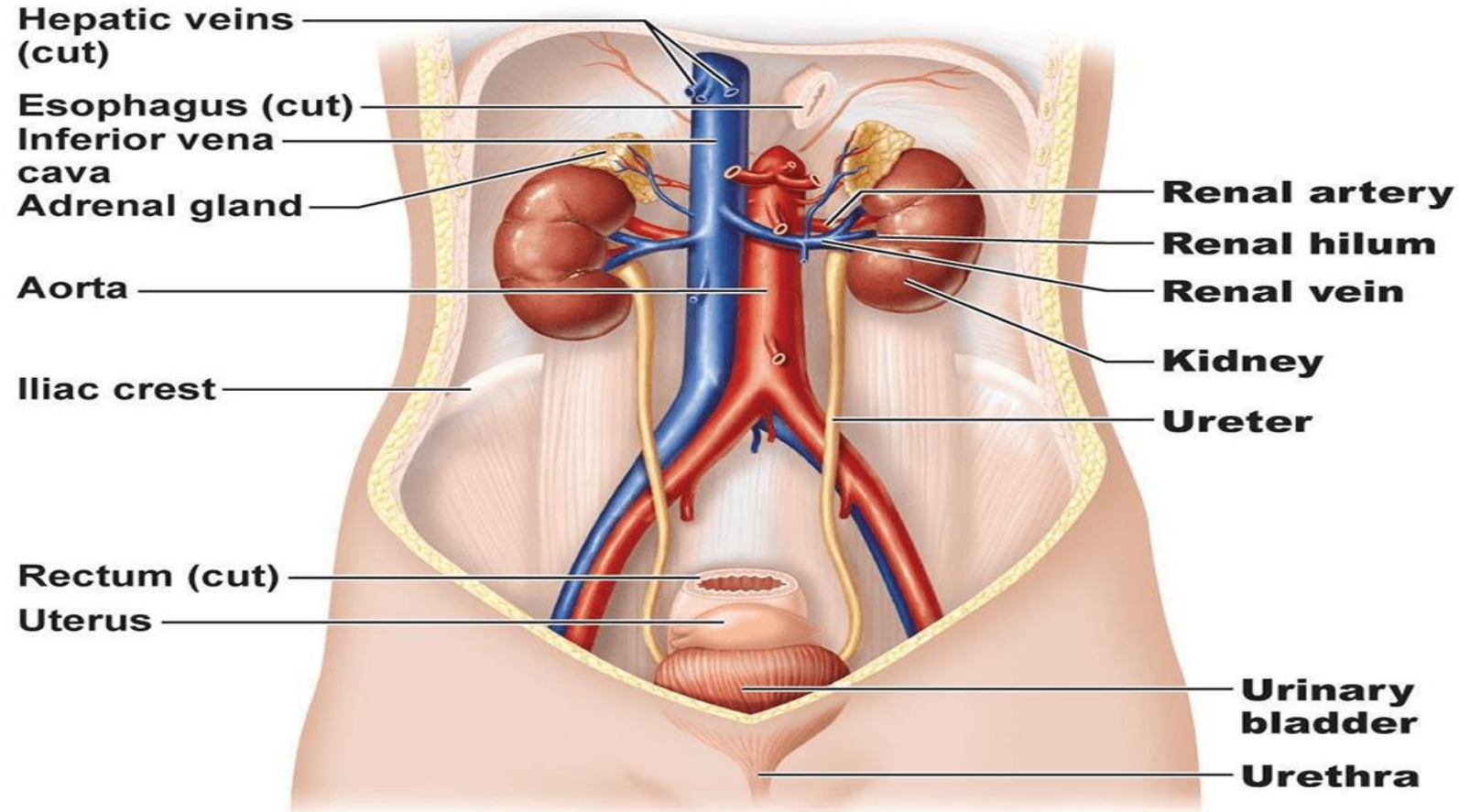
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المحاضرة 13 – المرحلة الثانية الطب الباطني – تقنيات التخدير

Renal system

Urinary System



(a)

- **Cardinal Symptoms:**

- Impaired urinary flow, hesitancy & dribbling of urine are seen in bladder outflow obstruction eg. BPH.

Loin pain and tenderness seen in pyelitis and renal infarction.

3. Severe pain radiated to the iliac fossa and genitalia may result from renal or ureteric obstruction.

4. Dysuria, frequency and urgency are seen in those with lower UTI.

- **5. Anuria or oliguria seen in ARF or obstructive uropathy.**

- 6. Polyuria &/or nocturia seen in DM, DI, CRF.

- **7. Hypertension indicate parenchymal or renovascular disease.**

- 8. Haematuria is non localizing symptoms.

9. Uraemia are group of signs and symptoms of advanced renal failure.

- **CLINICAL EXAMINATION:**

- 1. observation : tiredness, pallor, earthy color, deep rapid respiration ((acidosis))
- 2. Brown line ((crescent)) of the nail seen in CRF.
- 3. Skin examination shows: yellow complexion, bruising, excoriation of pruritus.

- **4. Blood pressure:**

often elevated •

5. Raised JVP in fluid overload.

6. Fundoscopy may shows : hypertensive changes

- **7. lungs exam may shows: crepitation in fluid overload**
- 8. Heart exam: pericarditis or pericardial effusion.
- 9. abdominal examination:
local tenderness, bruits
- **10. sacral &/or scrotal &/or ankle oedema**
- 11. peripheral neuropathy
- 12. examination of the genitelea.

- **INVESTIGATIONS:**

- ****Urinalysis:**

- **A. Macroscopical:**

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1. color:

- *normally from colorless to deep yellow ((urochrome pigment)).

- *Red or smoky color usually due to presence of RBC /myoglobin.

- *Cloudiness mostly due to amorphous phosphate OR pyuria

- **2. chemical assessment for:**

- - Proteinuria → glomerular disease((primary or secondary)) - glucose → DM or any reducing substance

- Keton → ketoacidosis

- - **Occult blood** → **blood, hemoglobin,**
- - PH → should be less than 5.3 in systemic acidosis, failure to achieve it occur in renal tubular acidosis.

- **B. Microscopical:**
- .1. Cells:
 - RBC > 2 cells/ H.P.F. → UTI, GN, stone
 - WBC > 4 cells H.P.F. → pyuria, UTI
 - Eosinophil → drug induced interstitial nephritis.

- **2. Casts:**

- RBC → GN , vasculitis
WBC → Pyelonephritis, interstitial nephritis
Epithelial → ATN, GN
Granular → Renal parenchymal disease

- **Waxy broad → advanced Rf**

- Hyaline → normally in concentrated urine
Fatty → heavy proteinuria

- **3. crystals:**

- Uric acid ((rhomboid)) → Acid urine, uric acid nephropathy
Ca- oxalate ((envelope- shape)) → acid urine, hyperoxaluria
Ca – phosphate → alkaline urine
Cystine → cystinuria

- **** CULTURE & SENSITIVITY**

- Sterile pyuria seen in:

TB

Malignancy

Interstitial nephritis

- **** RENAL FUNCTION TESTS:**

- • Blood urea

- Serum createnin

- Blood urea/ serum createnin

- $GFR = (140 - \text{age}) \times \text{body weight} \times 1.2 / \text{serum createnin} (\mu\text{mol/L.})$ normally, $GFR = (95 - 125)$

- **5. PH : failure to acidify urine seen in RTA**
- 6. Specific gravity useful in DI.
- 7. 24hr urine protein ((normally less than 150 mg/24hr.)). Abnormal finding indicate glomerular disorder and if it > 3.5 gm / 24 hr., it is called Nephrotic range proteinuria.

- **** URINARY TRACT IMAGING:**
- • KUB → radio opaque calculi
- • Ultrasonography → renal size, cortical thickness, cyst, mass, hydronephrosis
- • Renal scan → renal blood flow, tubular function

- • **4. IVU → size, shape, obstruction, filling defect, S.O. L.**
- • **5. Retrograde pyelography → ureteral obstruction**
- **6. Angiography → renal vasculatures, tumour**
- **7. CT – scan**
- **8. MRI**

- **** RENAL BIOPSY:**

- **INDICATIONS:**

- Unexplained ARF
- CRF with normal size kidneys
- Nephrotic syndrome in adult
- Atypical or non responding nephrotic syndrome in children

- **CONTRAINDICATIONS:**

- Bleeding tendency
- Uncontrolled hypertension
- Solitary kidney
- Small size kidneys

- **COMPLICATIONS:**

- Pain
- Bleeding
- Fistula ((arteriovenous fistula)).

- **** **RENAL SYNDROMES:**

- **GLOMERULAR SYNDROMES:**

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- **NEPHRETIC SYNDROME:** haematuria, proteinuria & hypertension

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- **NEPHROTIC SYNDROME:** overt proteinuria, oedema, hypoproteinemia & Hyperlipidemia

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- **RAPIDLY PROGRESSIVE GN:** haematuria and renal failure

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- **ASYMPTOMATIC URINARY ABNORMALITIES**

- **TUBULINTERSTITIAL DISORDERS ((NON GLOMERULAR)):**

- • Tubulointerstitial nephropathy
- • Tubular defect eg. RTA
- • Urinary tract infection ((UTI))
- • Renal neoplasma
- • Cystic disease of the kidney

- **RENAL FAILURE:**

- • ARF : Abrupt decline in renal function over days to few weeks
- • RPGN : Rapid deterioration of renal function over a period of weeks to months.
- • CRF : Progressive deterioration of renal function over months to years

- **RENAL CALCULUS SYNDROME:**

- • Renal stone
- • Obstructive uropathy

- **HYPERTENSION & VASCULAR DISORDERS OF THE KIDNEY**

Thank you•