**Urinary system**

**Components:-**

**1- Two Kidneys. Highly vascular organ (25%cardiac out put ) Contain the uriniferous tubules, which consist of nephrons and a system of collecting ducts; filter blood and produce urine(water , electrolytes ,urea, uric acid , creatinine).**

**2-Two Ureters. Muscular tubes that collect urine output from the kidney and carry it to the urinary bladder.**

**3- Urinary bladder. Hollow muscular organ that stores urine.**

**4- Urethra. Tube that drains urine from urinary bladder to the exterior.**



**Macroscopic Organization of the Kidney :-**

**From the gross structure of the kidney found Renal hilum ,pelvis ,capsule, cortex and Renal medulla. The renal cortex:- its the region immediately beneath renal capsule and composed of two region cortical labyrinth and medulla labyrinth . The renal medulla :- located immediately beneth renal cortex consist of triangular block of tissue called pyramids .Renal columns are strands of cortical tissue that extend down between adjacent pyramids .**

**The renal tubule :-**

**continues from Bowman’s capsule and consists of the following parts: proximal convoluted tubule, loop of Henle, and distal convoluted tubule . The distal convoluted tubules from several nephrons empty into a collecting tubule. Several collecting tubules then unite to form a papillary duct that empties urine into a calyx of the renal pelvis.**

**Ureter :-**

**The wall of ureter consists of1- mucosa :- consists of transitional epithelium and wide lumina propria .**

**2-muscularis externa :- consists of inner ,longitudinal smooth muscle layers and circular smooth muscle layers.**

**3-adventitia :-consists of fibroblastic connective tissue and adipose tissue and numerous of arteries , venules and small nerves.Ureter**



**Urinary Bladder:**

**The wall of urinary bladder consists of :**

1. **Mucosa :- consists of transitional epithelium and Lumina propria wider than the Lumina propria of ureter .**
2. **Muscularis externa consists of a thick three layers as smooth muscle bundles .**
3. **Serosa**

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