



The Ureter

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The ureters:

The ureters are muscular tubes which convey urine from kidneys to the urinary bladder.

The ureter lies behind and adheres to the parietal peritoneum of the posterior abdominal wall.

The ureter is about 10 inches (25 cm) and has 2 parts; abdominal and pelvic, each is 5 inches long.

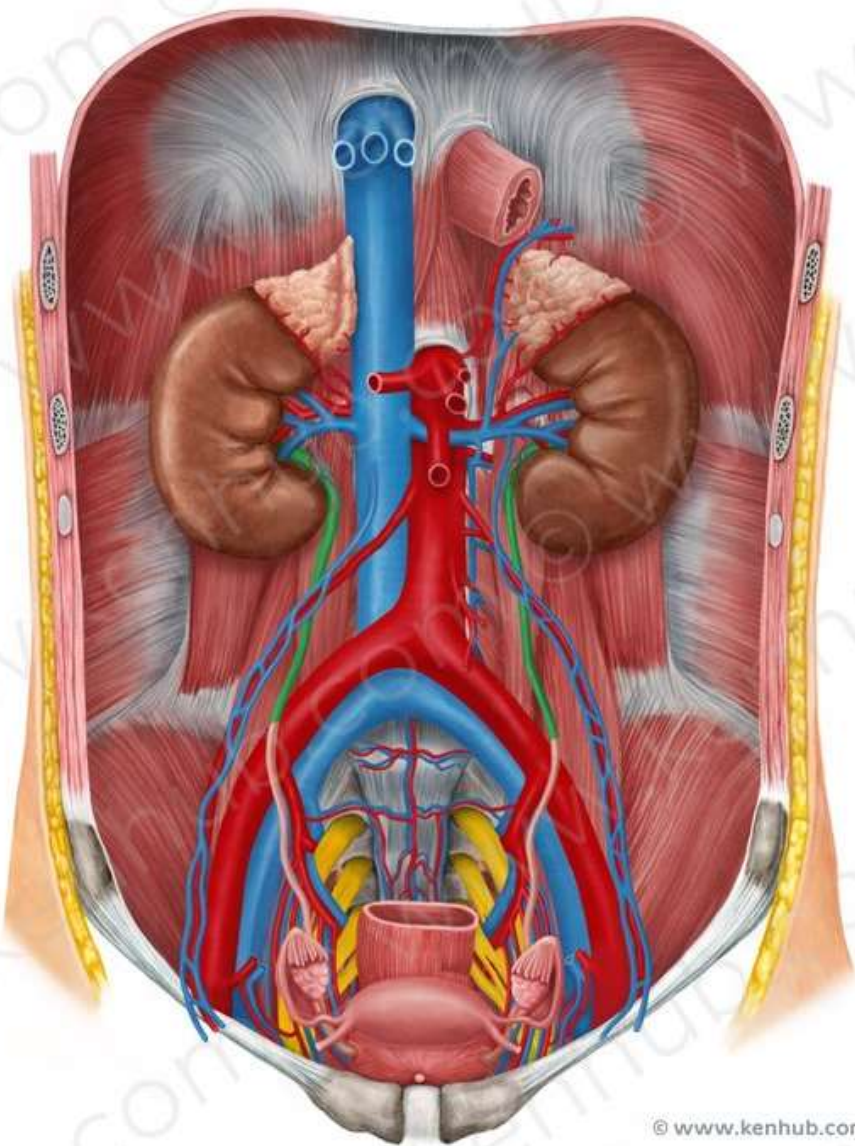
Course of the ureter

The abdominal part

- Begins from the lower end of the renal pelvis (it is the pelvi-ureteric junction),
- It descends downwards and medially on psoas major muscle towards the pelvic brim.
- It crosses the *end* of the common or beginning of the external iliac artery to become the pelvic part.

The pelvic part

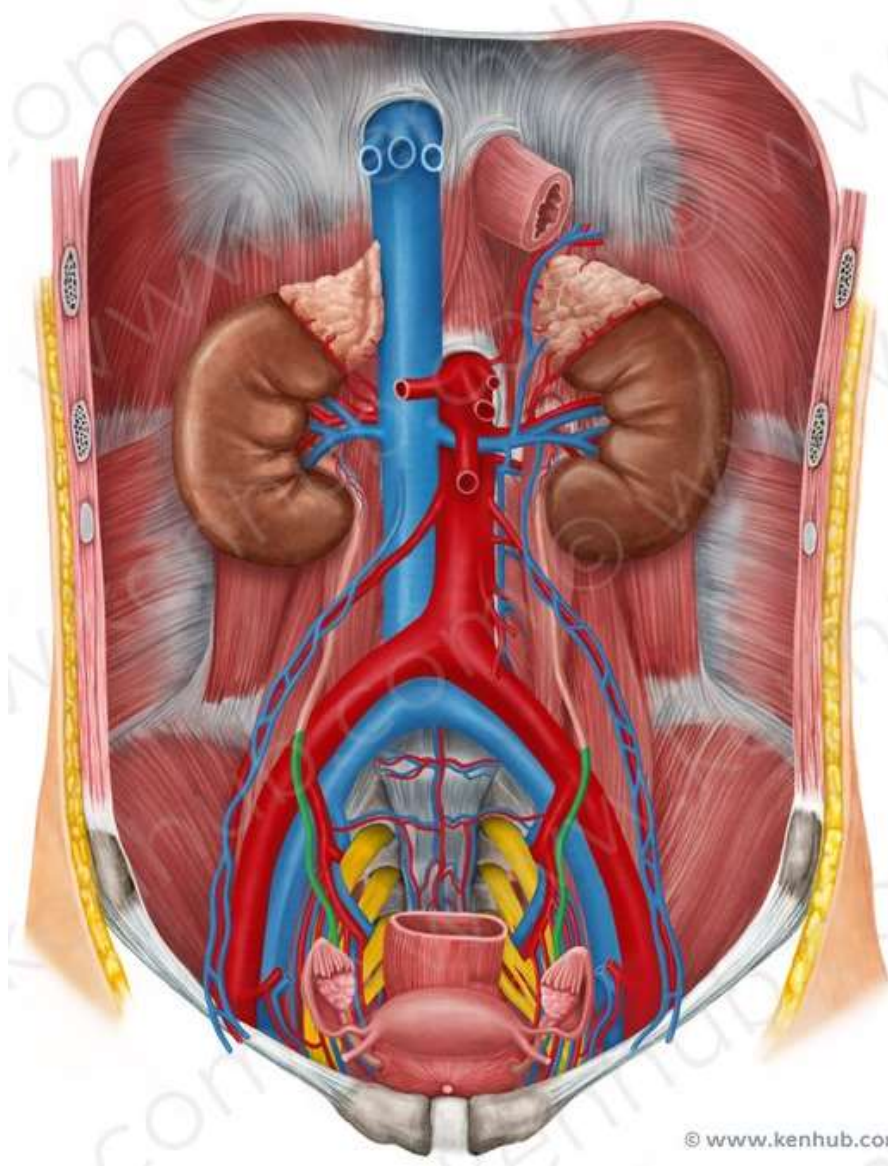
- Descends downwards and backwards along the anterior margin of greater sciatic foramen till the ischial spine. It forms posterior boundary of the ovarian fossa.
- It runs forwards on pelvic floor to open in the wall of the urinary bladder.
- It is crossed by the vas deferens in **male** and uterine artery in **females**.
- It pierces the wall of the bladder obliquely to open at the superolateral angle of the trigone.
- This oblique termination of the ureter prevents regurgitation of urine from bladder to the ureter



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The abdominal part



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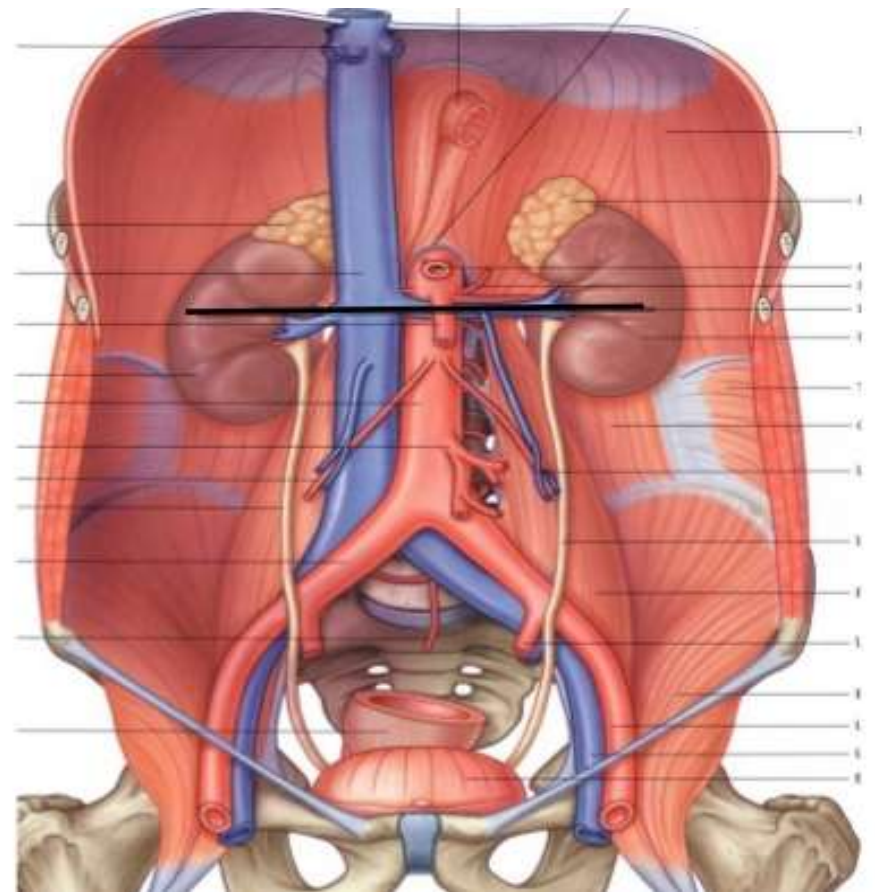


The pelvic part

Relations of the abdominal part of ureter:-

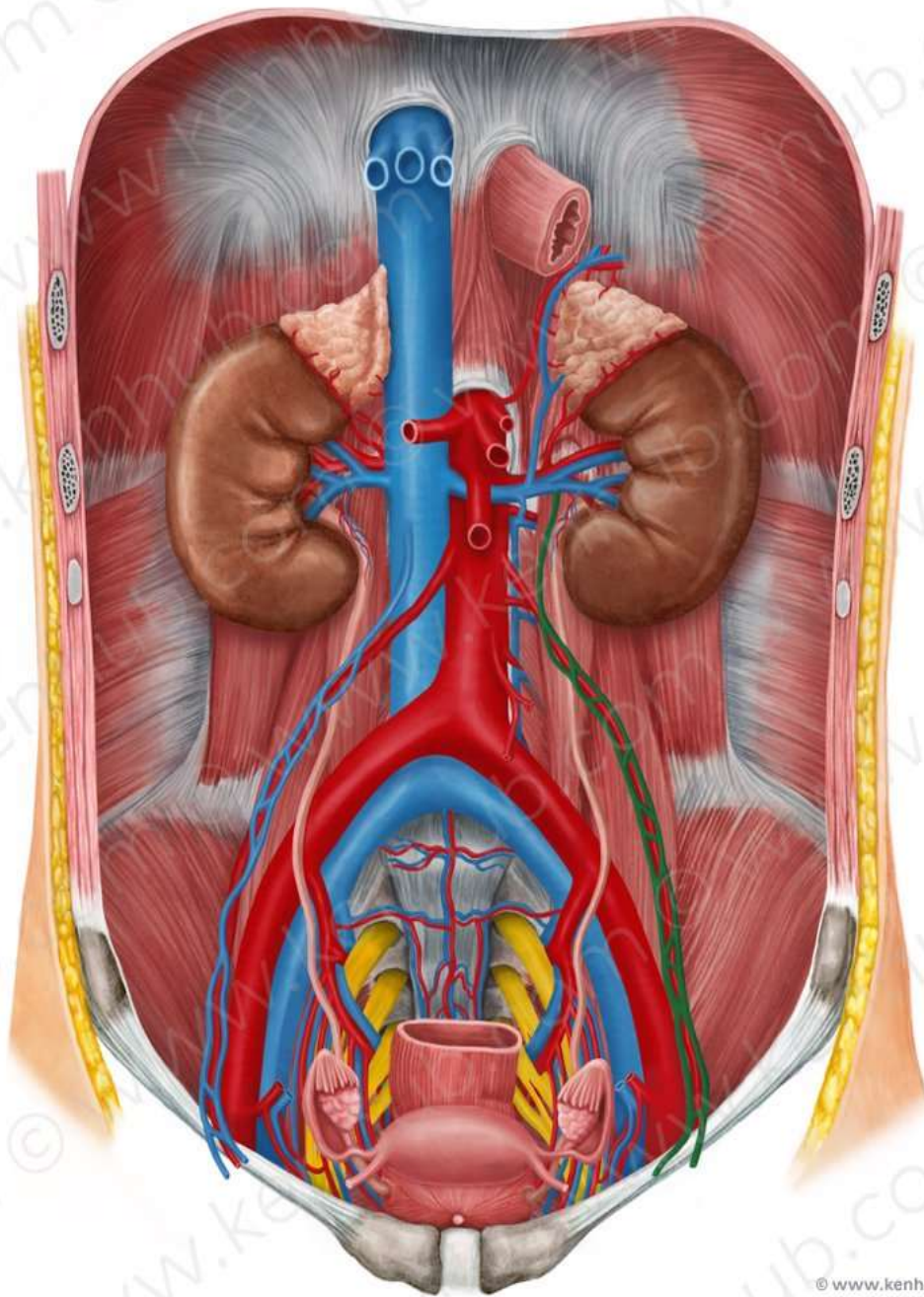
Posterior Relation (BOTH SIDES)

1. Psoas major muscle separating the ureter from the tips of the transverse processes of the lumbar vertebrae (2-5)
2. Genitofernorol nerve
3. Termination of common or beginning of external iliac artery

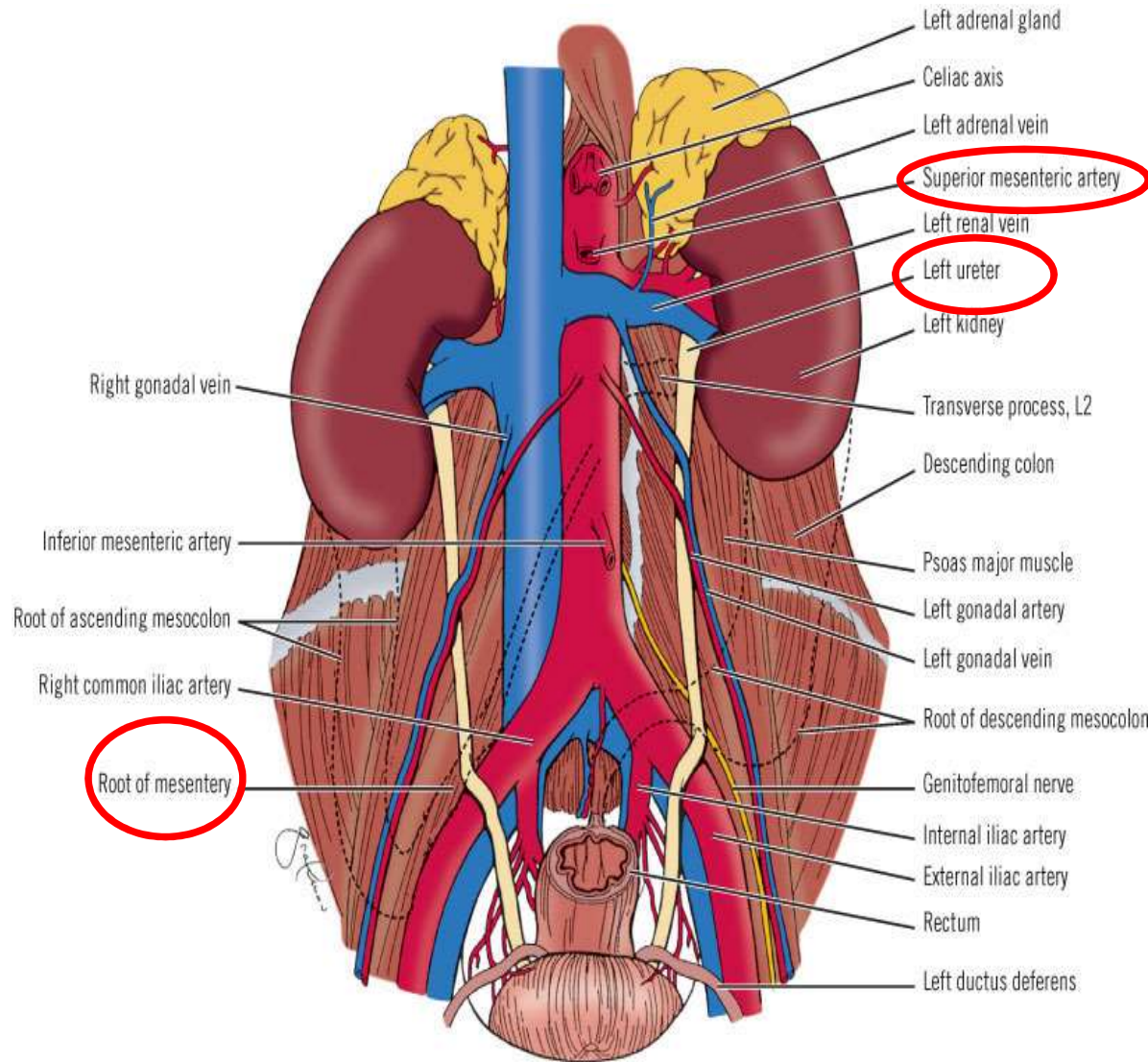
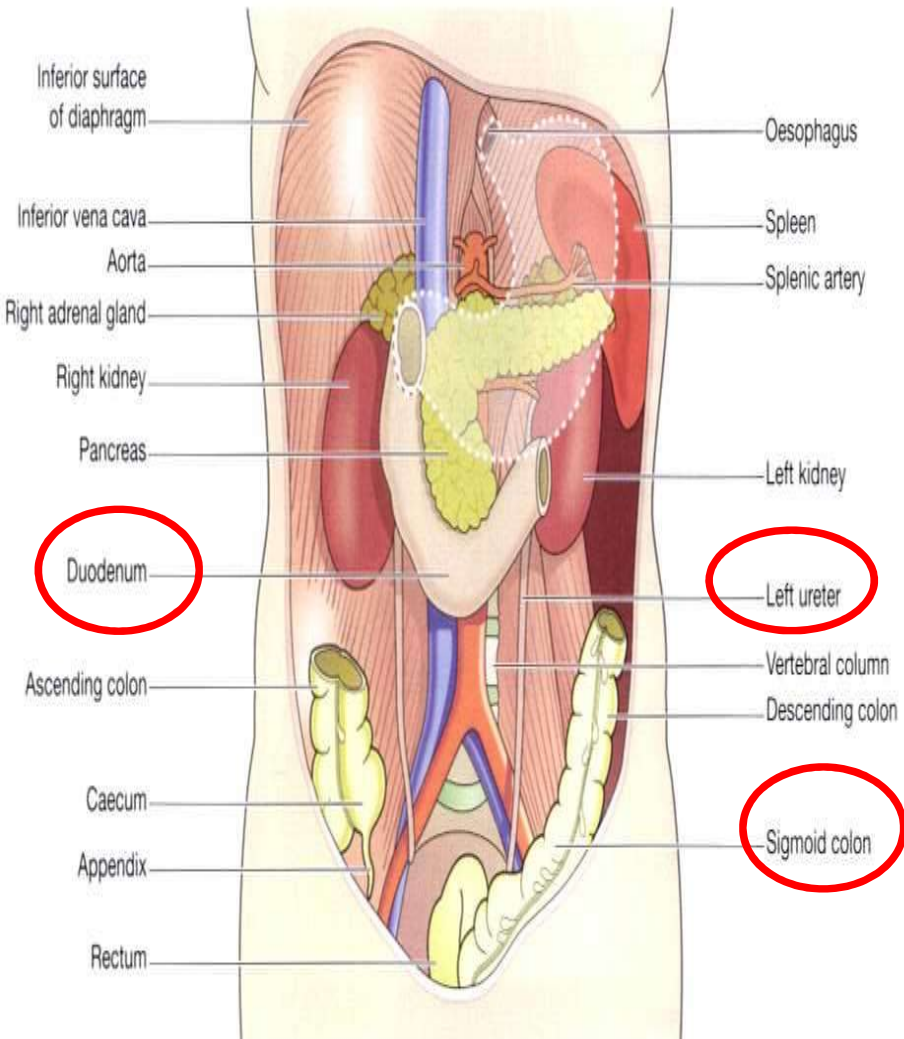


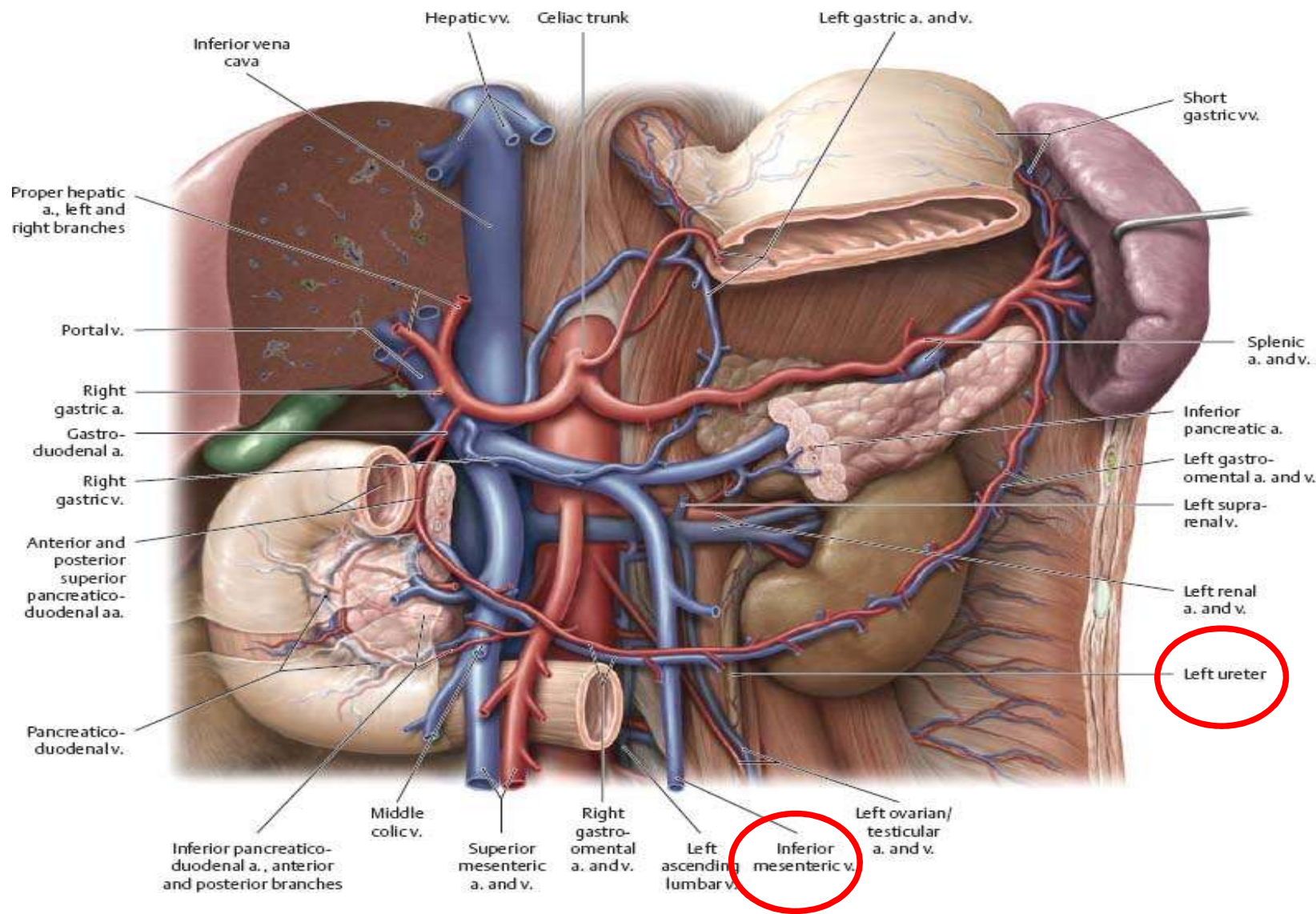
Anterior and medial relations

	Right ureter	Left ureter
Anterior relation <i>Intestinal structures</i>	<ol style="list-style-type: none"> 1. Third part of the duodenum at its beginning 2. Terminal ileum near the pelvic brim 	<ol style="list-style-type: none"> 1. Sigmoid colon near the pelvic brim
Peritoneal elements	<ol style="list-style-type: none"> 1. Parietal peritoneum of the posterior abdominal wall 2. Root of the mesentery 	<ol style="list-style-type: none"> 1. Parietal peritoneum of the posterior abdominal wall 2. Apex of sigmoid mesocolon <u>with its intersigmoid recess</u>
vessels	<ol style="list-style-type: none"> 1. Right gonadal vessels 2. Superior mesenteric vessels 3. Right colic vessels 4. Ilio-colic vessels 	<ol style="list-style-type: none"> 1. Left gonadal vessels 2. Left colic vessels 3. Sigmoid vessels
Medial relation	<ul style="list-style-type: none"> • Inferior vena cava 	<ul style="list-style-type: none"> • Inferior mesenteric vein



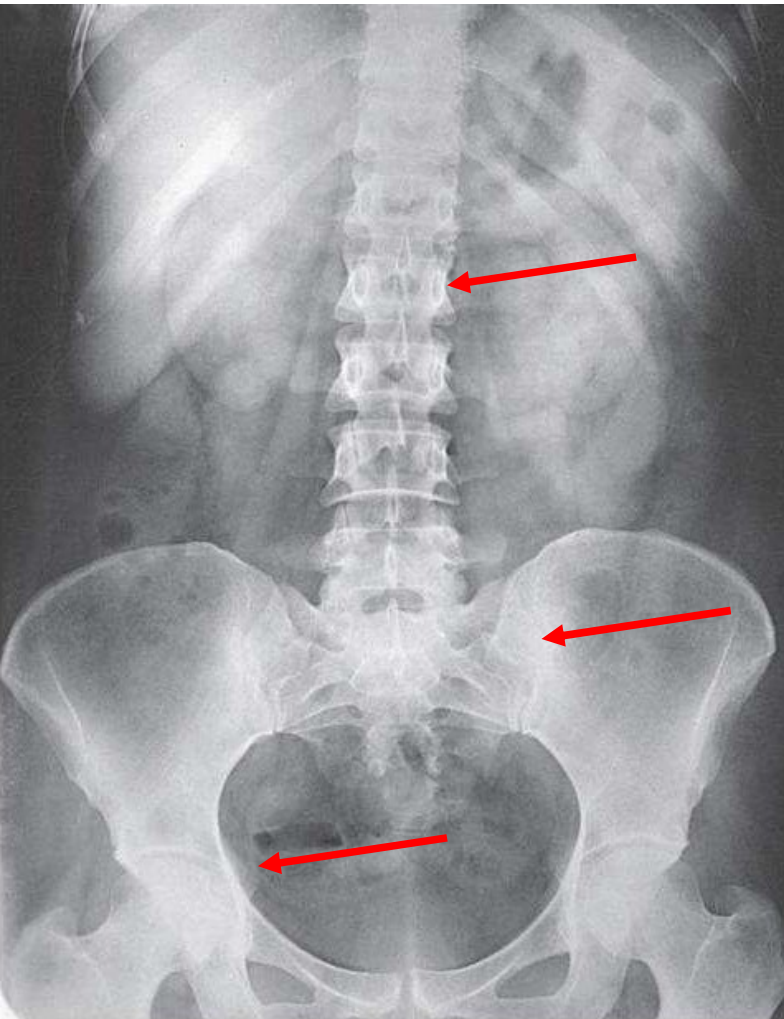
Left ovarian vein



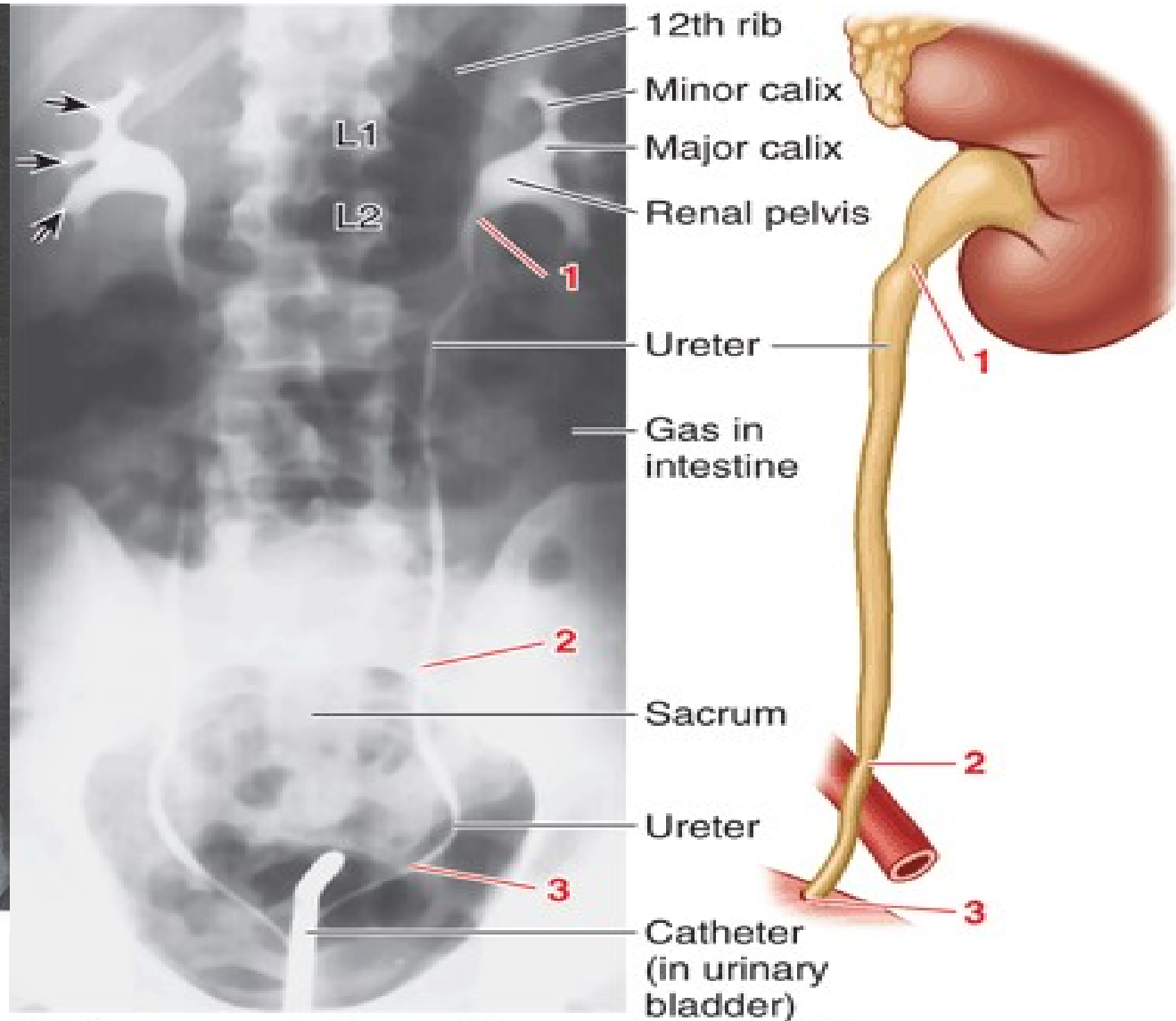


Constrictions of the ureters

Site of constriction	Corresponding bony Level
At pelvi-ureteric junction	Near the tip of the transverse process of L2 vertebra
At pelvic brim	In front of sacroiliac joint.
In the wall of the urinary bladder (it is the <i>narrowest point</i> of the whole ureter)	Just medial to the ischial spine.



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(A) Anteroposterior pyelogram

(B)

Nerve supply :-

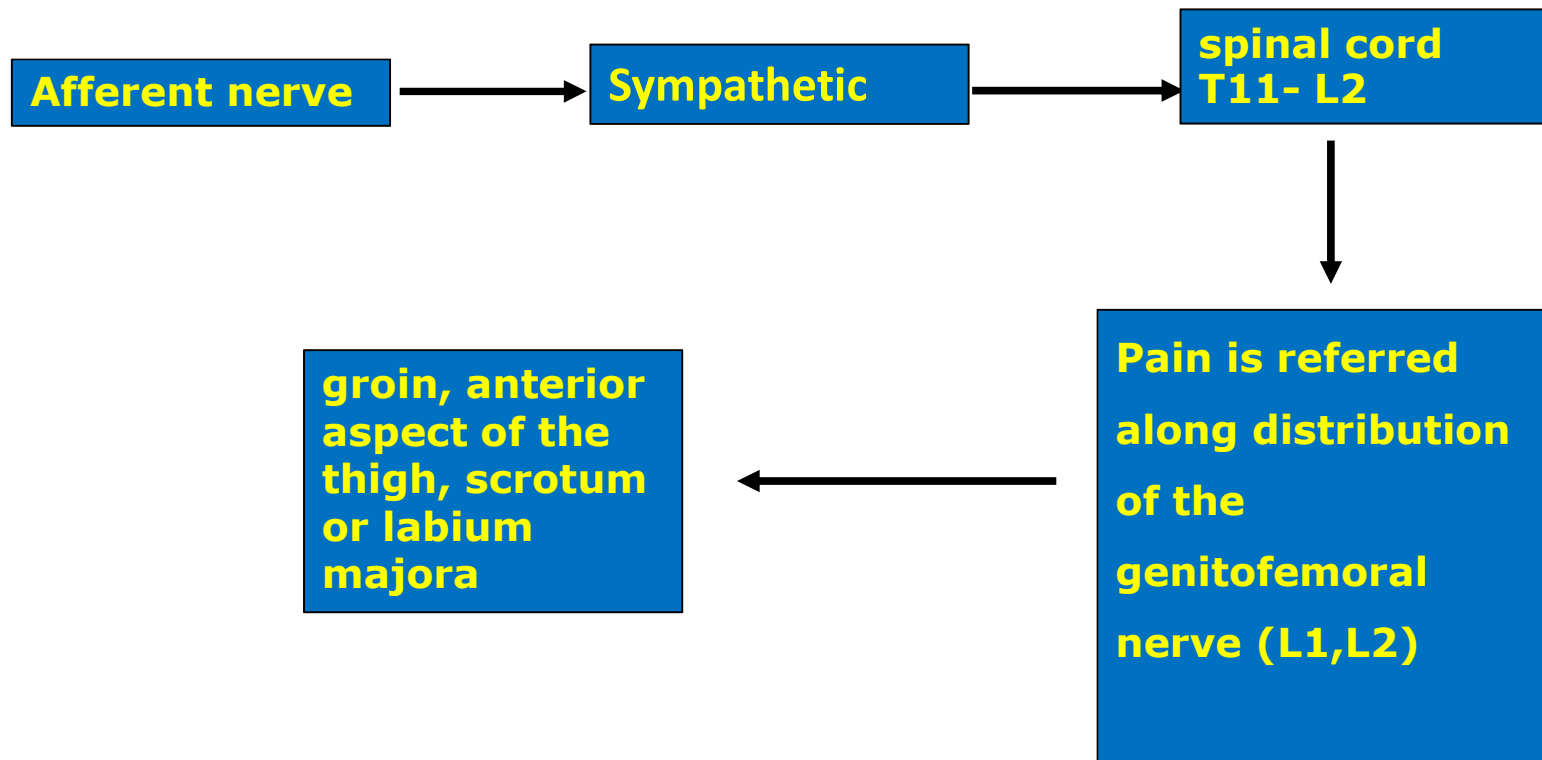
- ✓ The ureter receives sympathetic fibers from T11 – L2 segments of spinal cord.
- ✓ Sensory fibers from the ureter enter the spinal cord through the same segments.
- ✓ Ureteric colic begins in the loin and is referred to groin, anterior aspect of the thigh through genitofemoral nerve (L1,L2) and scrotum or labium majora

Surface markings :-

The ureter begins at a point on the transpyloric plane, 5 cm from the midline

It enters the bladder at the pubic tubercle.

Ureteric Pain



Arterial blood supply :-

- ❖ Abdominal part receives branches from renal artery, abdominal aorta, gonadal and common iliac arteries
- ❖ Pelvic part receives branches from vesical, middle rectal and uterine arteries

Lymph drainage:-

To lateral aortic, common iliac lymph nodes.



Photostat USA/Warner Collection

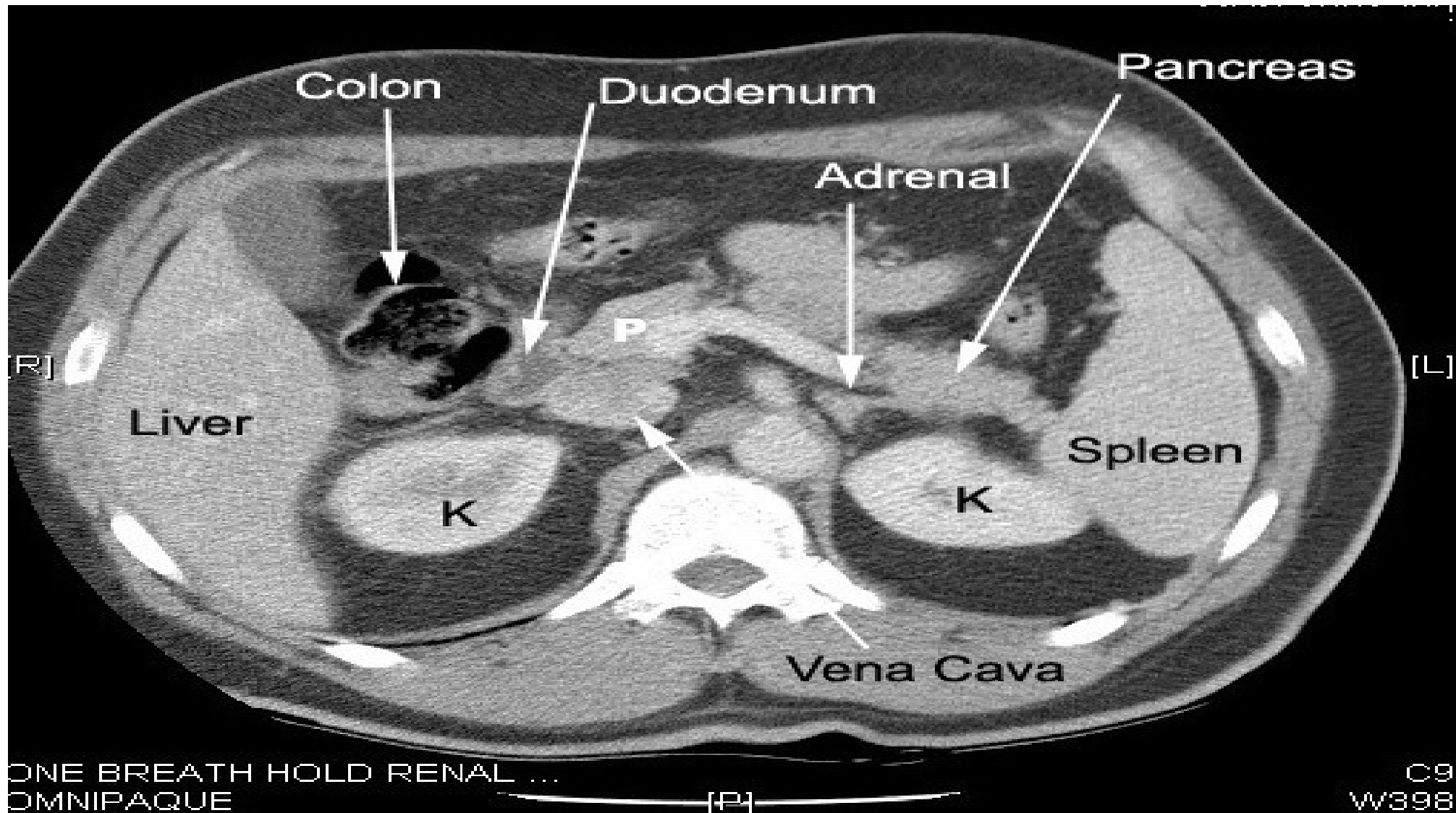
**Intra Venous Urogram
IVU**



IVU



KUB



MRI Abdomen

DR AHMED SALMAN



MRI Abdomen

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Thank you!

