

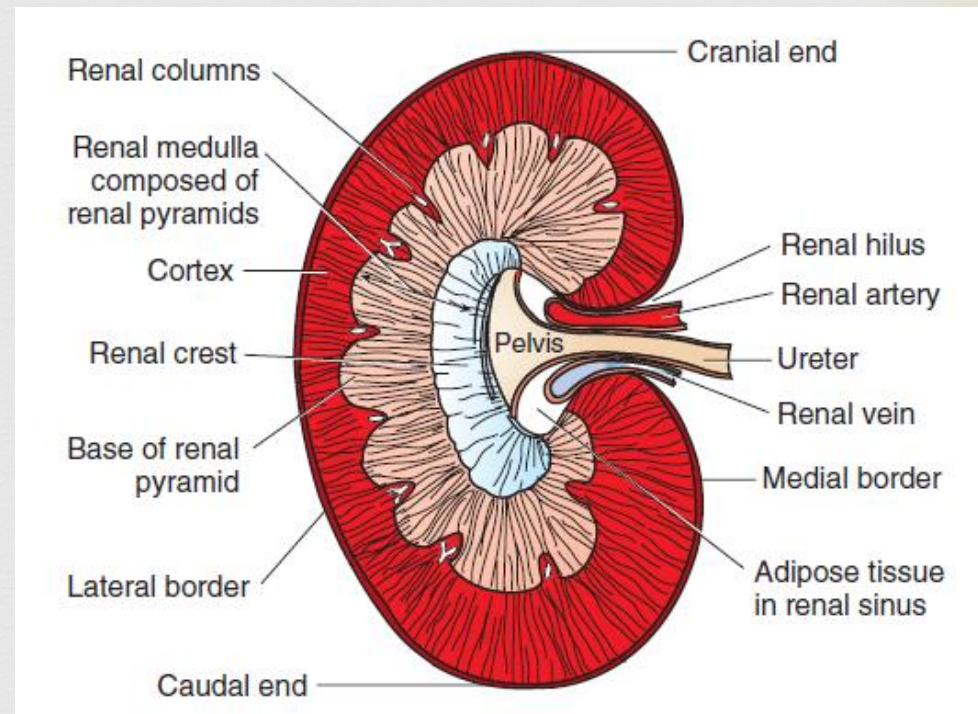
Nephrectomy



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Kidney :

The kidneys are paired, bean-shaped structures located in the retroperitoneal space directly beneath the sublumbar muscles. The cranial pole of the right kidney lies in the renal fossa of the caudate liver lobe and is located more cranially than the left kidney. The cranial pole of the left kidney lies lateral to the ipsilateral adrenal gland, which is closely associated with the cranial aspect of the left renal vessels. The left kidney is generally more mobile than the right kidney.

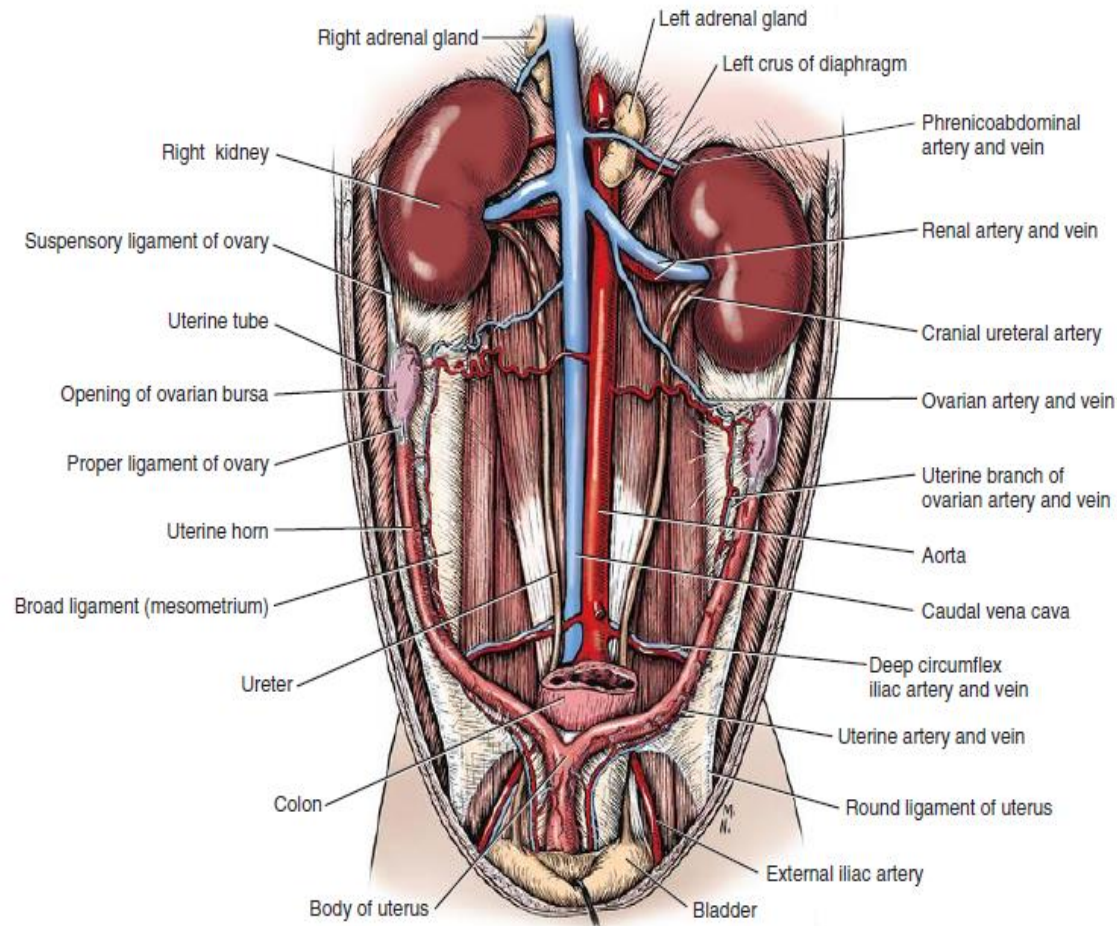


❧ Blood Supply

1. Renal artery
2. Renal vein

❧ Innervation

- 1- The sympathetic ganglion
- 2- parasympathetic sources. (vagus) trunks.



Nephrectomy



“Nephro” means “kidney” while “ectomy” means “removal.”

A nephrectomy is the surgical removal of a kidney .
There are two kidneys,

Right and left. Depending on the reason for a nephrectomy, all or part of one kidney.

Partial nephrectomy -Part of one kidney is removed (removes diseased tissue from a kidney and leaves healthy tissue in place).

Simple nephrectomy -All of one kidney is removed

Pre-op preparation



- ❧ Fasting the animal from food 24 hours before surgery and water 4 hours at day of operation.
- ❧ Prepare the surgical site by clipping and shaving, Then put surgical drape .
- ❧ Animal in dorsal recumbence position when open in midline, or lateral recumbence when open in flank.

Procedure



Nephrectomy is indicated for renal neoplasia, uncontrollable hemorrhage, persistent urine leakage, pyelonephritis resistant to medical therapy (e.g., associated with nephroliths), hydronephrosis, and ureteral abnormalities.

Before nephrectomy, renal function in the opposite kidney ideally should be assessed. Bilateral renal dysfunction may warrant a guarded prognosis. If renal neoplasia is suspected, radiography (thoracic and abdominal) and ultrasonography should be used to help rule out metastasis, including the opposite kidney. After laparotomy grasp the peritoneum over the kidney and incise it.

Using a combination of blunt and sharp dissection, free the kidney from its sub lumbar attachments.

Elevate the kidney and retract it medially to locate the renal artery and vein on the dorsal surface of the renal hilus.

Identify all branches of the renal artery.

Double ligate the renal artery with absorbable suture, close to the abdominal aorta to ensure that all branches have been ligated.

Consider placement of a transfixation suture if the artery is larger than 3to4 mm in diameter. Identify the renal vein and ligate it similarly. Ligate the ureter near the bladder and remove the kidney and ureter, then closure the abdominal wall routinely.

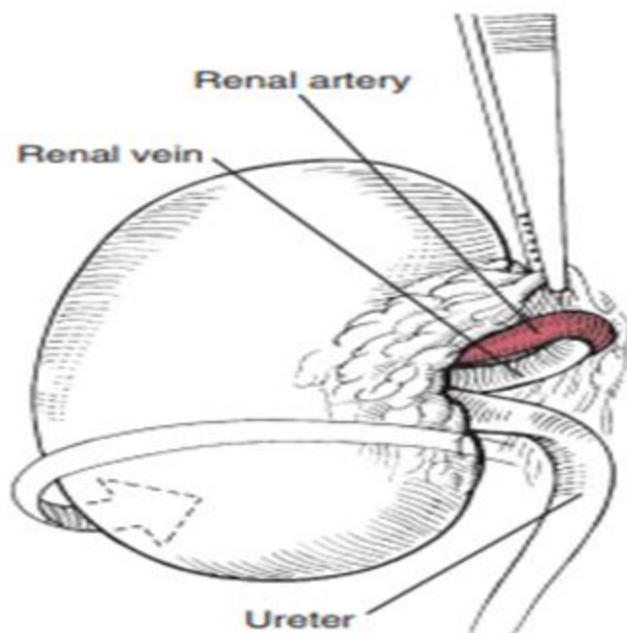


FIG. 24.3 During nephrectomy, elevate the kidney and retract it medially to locate the renal artery and vein on the dorsal surface of the renal hilus.

Surgical technique of nephrectomy:

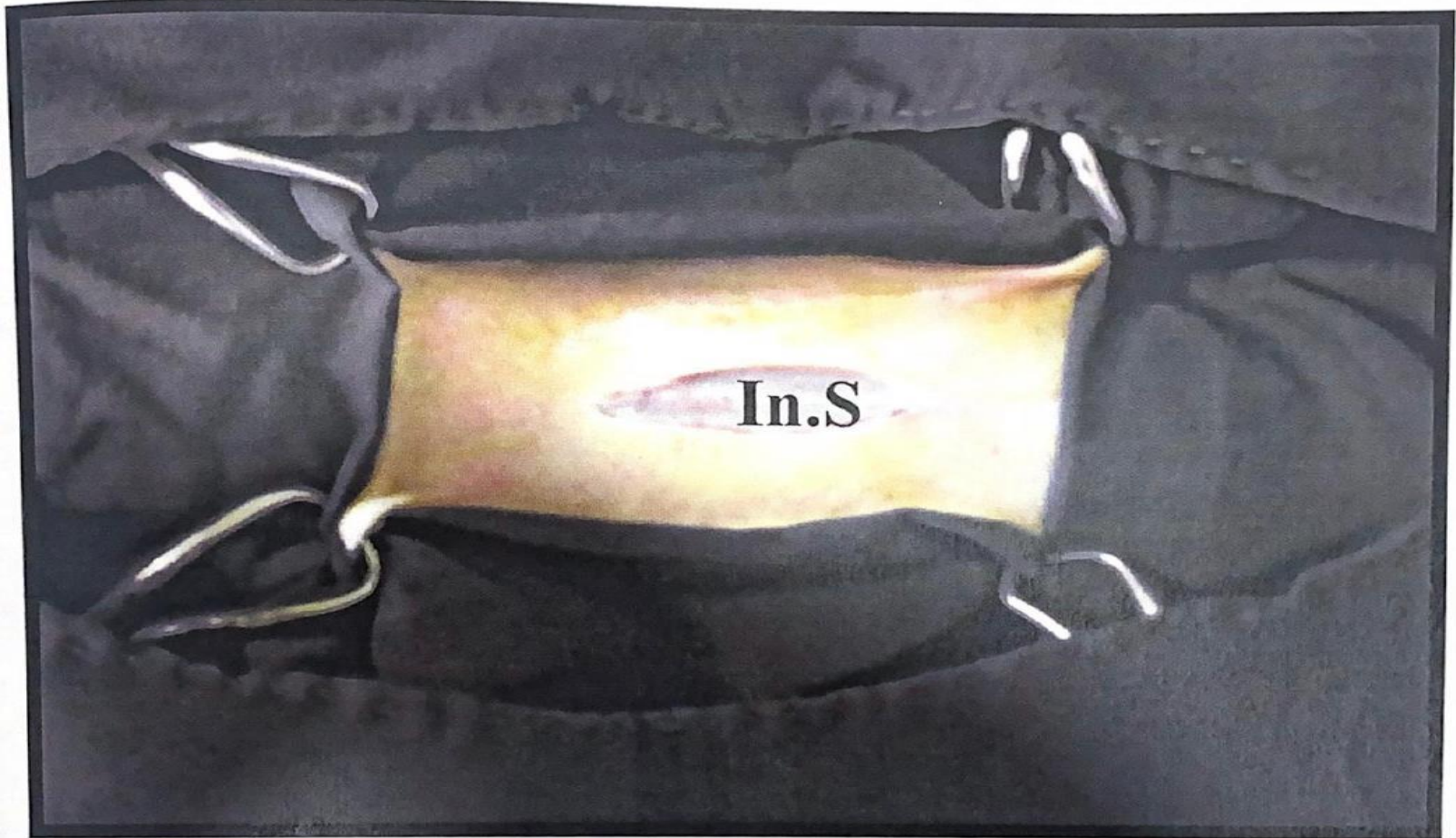


Figure (4): Incision of the skin between xiphoid cartilage and the umbilical area to expose of linea alba (arrow, In.S).

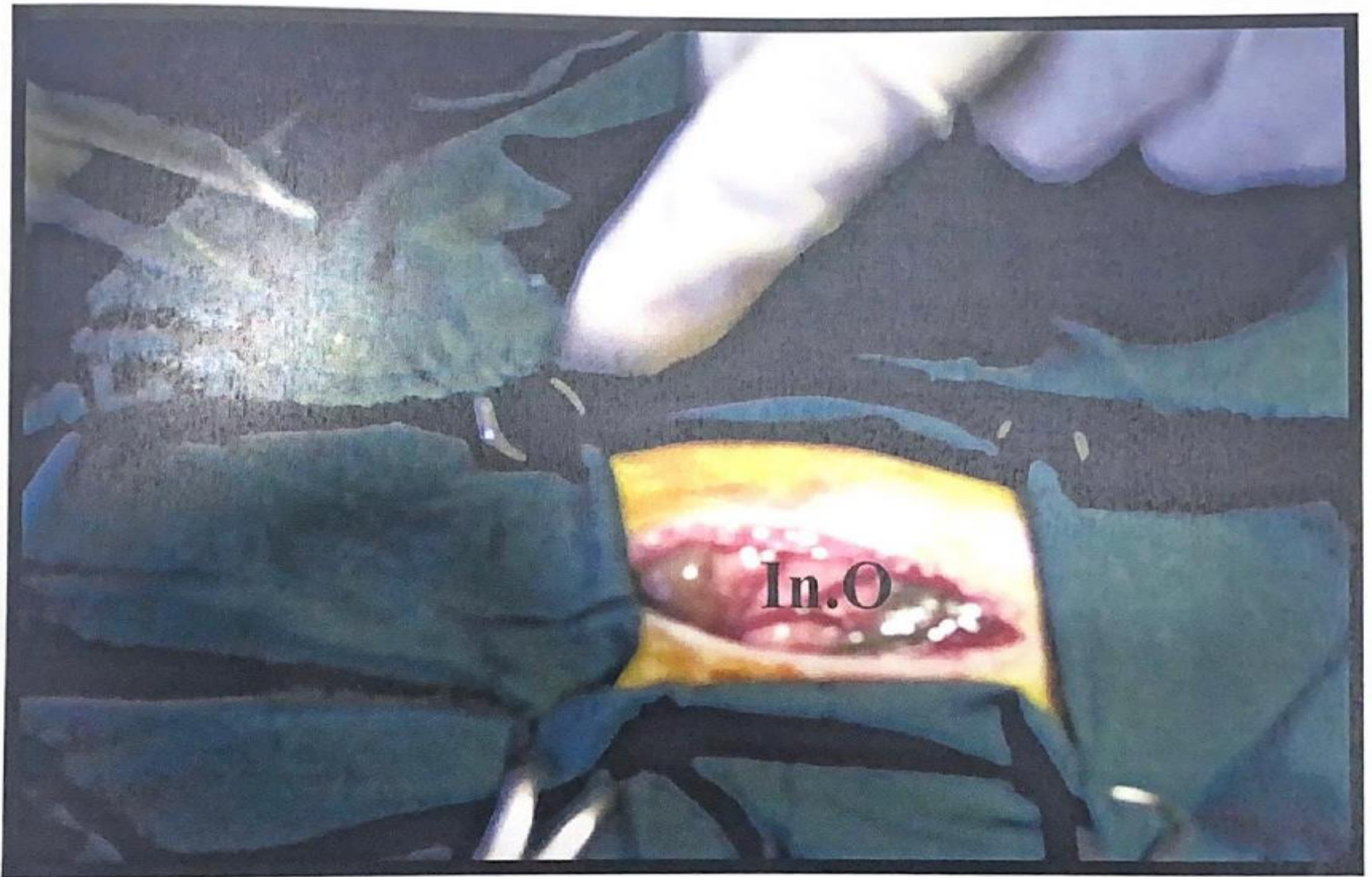


Figure (5): Incision of the linea alba and exposure of internal organs (arrow, In.o).



Figure (6): Exteriorized of the kidney from abdominal cavity and its grasping by the thumb and figure(arrow,L.K)

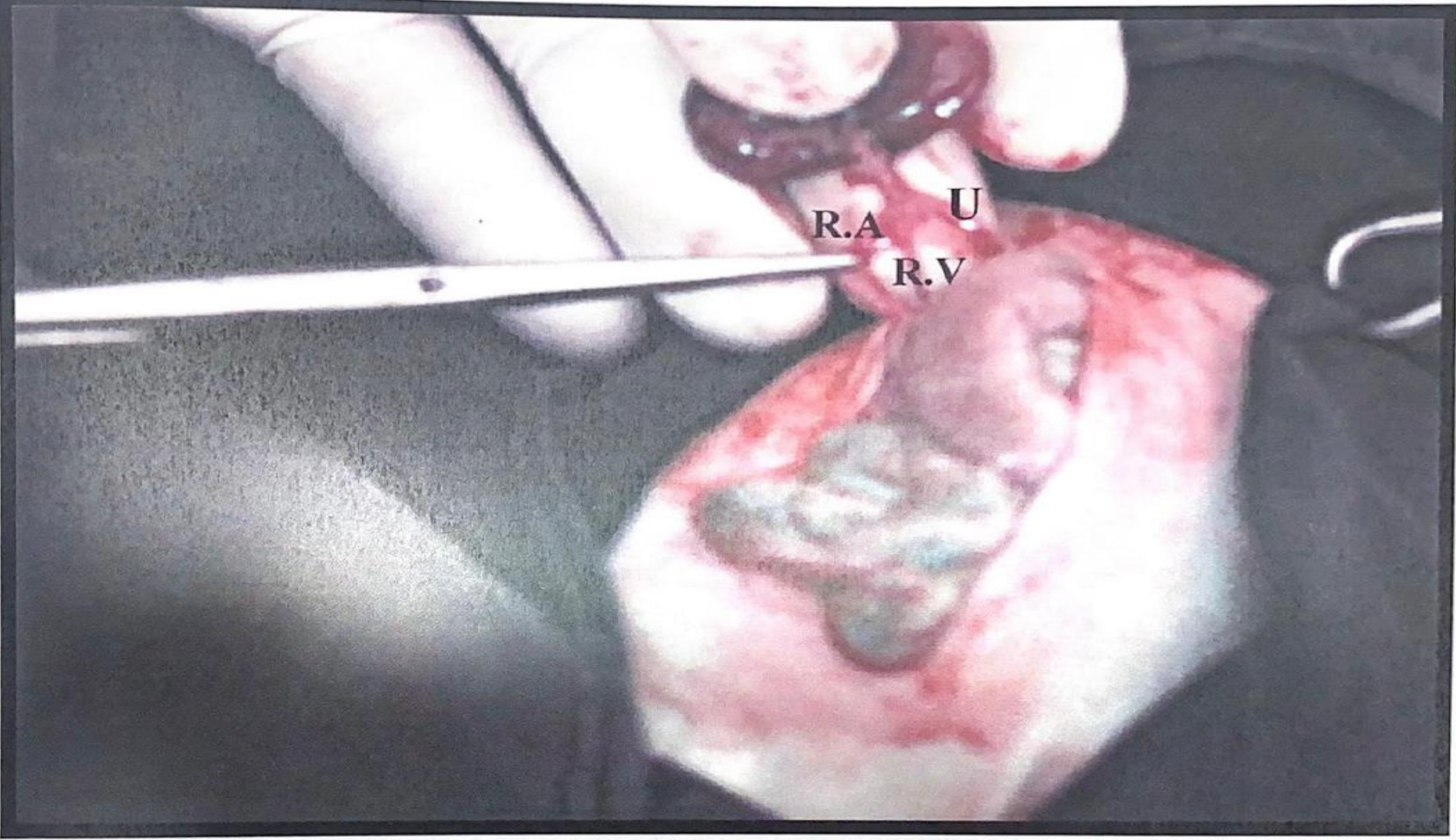


Figure (7) : The renal artery (arrow,R.A) , renal vein (arrow,R.V) and ureter (arrow, U) were separated in unilateral nephrectomy

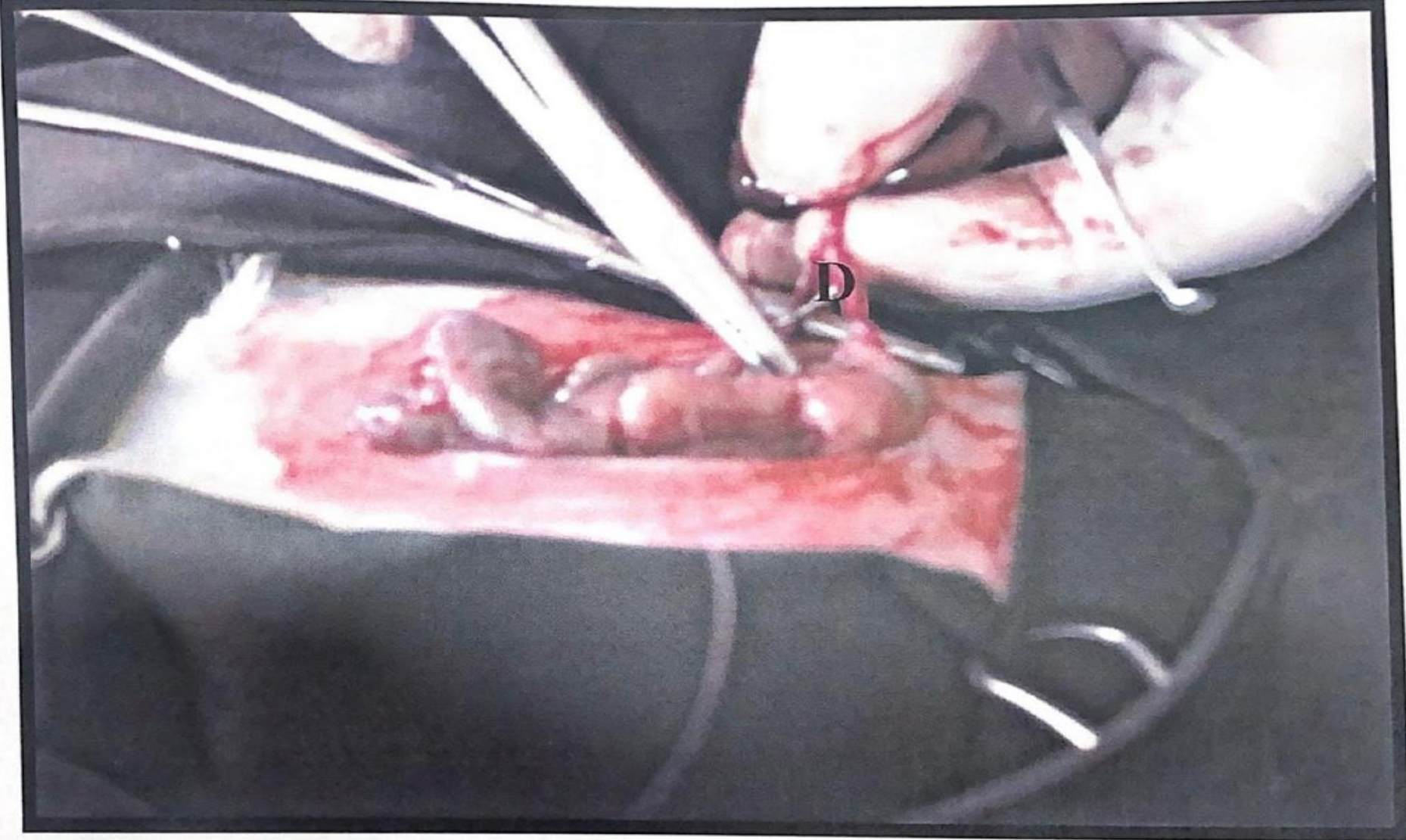


Figure (8) : Double legated of artery, vein, and ureter then cut between two legation in unilateral nephrectomy(arrow,D)



Figure (11): The skin was closed by simple interrupted suture pattern (arrow,S.I.S).

Post operative care



- ❧ systemic antibiotic for 3-4 days
- ❧ remove the suture after 7-10 days
- ❧ Intravenous fluids
- ❧ Opioid analgesia

