

Renal Vein Injury with Monopolar Hook during Dissection

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A left simple nephrectomy was progressing uneventfully. The initial steps—including bowel reflection and elevation of the gonado-ureteral packet—were completed successfully. The renal vein was identified, and dissection of its lower border was initiated.

Once the uretero-gonadal packet was lifted, the next critical anatomical landmark was the renal vein. According to the anatomical mnemonic *Anterior to Posterior: Vein, Artery, Pelvis*, no major structures are typically found anterior to the renal vein—except in cases involving a retroaortic vein, where the artery may still lie anterior to the vein.

Initial blunt dissection was performed using suction, followed by fine dissection with a monopolar hook instrument. However, the hook was activated using the shoulder rather than the tip, resulting in ineffective tissue engagement. This led to a rent in the anterior wall of the renal vein.

VIDEO 57 ((🎥))

Available through scratch code

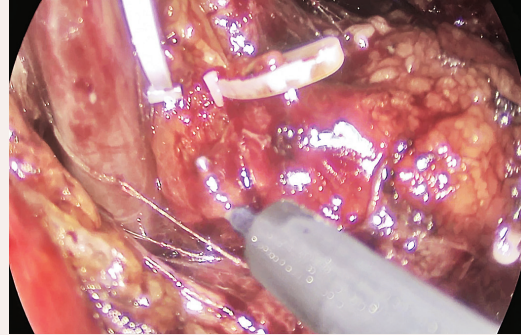


Fig. 57.1: Hilum dissection in progress

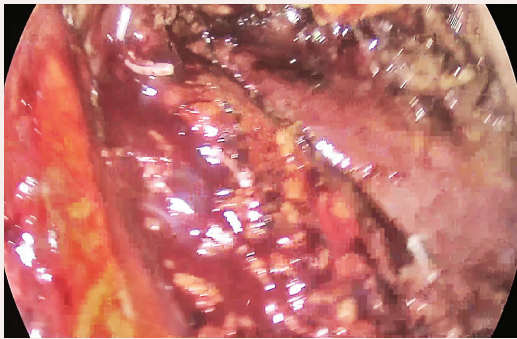


Fig. 57.2: Bleeding from renal vein

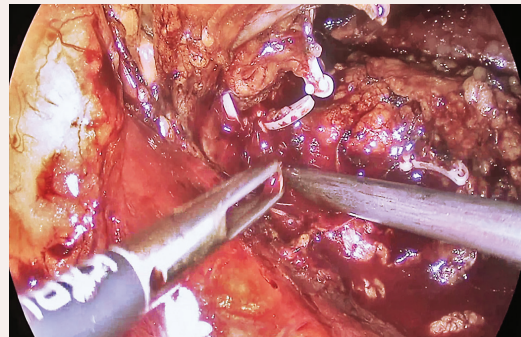


Fig. 57.3: Renal vein grasped using left hand grasper for hemostasis

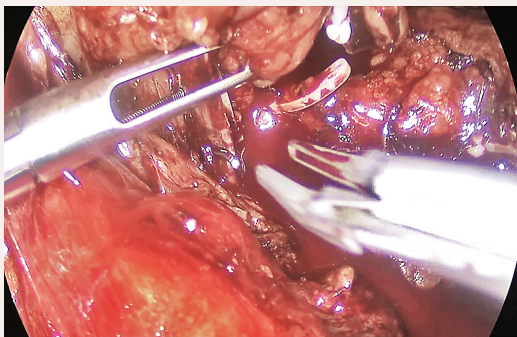


Fig. 57.4: Renal vein was clipped

Status at the Time of Injury

- The upper pole of the kidney had not yet been dissected.
- The renal artery had not been dissected.
- Only two instruments were in use, and both of the surgeon's hands were occupied.

Given these constraints, the team opted to place an additional port to elevate the uretero-gonadal packet, thereby freeing both hands. The rent in the renal vein required precise suturing, as improper repair could lead to renal vein thrombosis.

Management Options

- Use a rescue stitch to control the bleeding.
- Apply a temporary clip to control the rent, especially since the graft was to be retrieved. The clip could then be removed on the bench, allowing for meticulous *ex vivo* suturing.

In this case, placement of an additional port provided better control, and a clip was successfully applied to manage the situation.

Take-Home Messages

1. **Use the monopolar hook correctly**—the instrument should engage tissue with its tip, not the shoulder.
2. **Do not hesitate to place additional ports** when the surgeon feels constrained. This can significantly improve control and safety.
3. **Management of vascular injury should be tailored** to the stage of dissection at which the injury occurs.