Videos

Laparoscopic en bloc kidney transplantation

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SURGICAL TECHNIQUE

En bloc kidney transplantation is usually performed when the kidney is from a pediatric deceased donor. Occasionally, kidneys from marginal donors may be used en bloc or, more commonly, two kidneys are separately transplanted either in one or both iliac fossa. This video presents salient steps of en bloc kidney transplantation performed laparoscopically with intracorporeal suturing technique.

Under general anesthesia and in Trendlenberg position an 18 F size Foley triway was inserted into the bladder. Draining urobag and Y connection (TURP set) were attached to Foley's catheter. After painting and draping, an 11-mm port was placed at the umbilicus. Other ports were placed on the left side of the abdomen; two 11 mm and one 5 mm. Surgeon was left-handed and used the 5-mm port for suturing.

Peritoneum over the right external iliac vessels was divided in line of vessels. Round ligament was divided. All lymphatics and venous tributaries were sealed by LigaSureâ probe. Following dissection of both external iliac artery and vein, laparoscope and hand instruments were removed. A 5-cm incision in the midline just above the pubic symphysis was made which was overlying a previous scar.

En bloc kidney graft was prepared on bench; suprarenal

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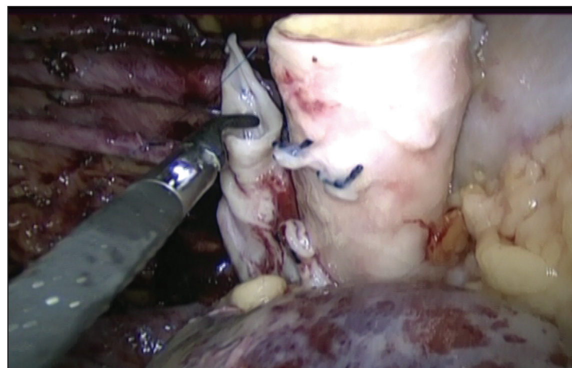

Video: Laparoscopic en bloc kidney transplantation

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aorta and vena cava were closed by continuous running suture of polypropylene. On the postero-lateral aspects of both the aorta and vena cava all lumbar vessels were tied. Perfusion of graft by histidine-tryptophane-ketoglucarae solution was done through the infra-renal aorta and temporary occlusion of the infra-renal vena cava revealed no leak. Allograft was now inserted into the abdomen. Rapid closure of the peritoneum and linea alba was performed.

Penumoperitoneum was reestablished and both kidneys were placed in proper position to avoid torsion of either renal pedicles. External iliac vein was controlled by use of vessel loop and hem o lok clips. An endoshear was used for venotomy and extended downwards for appropriate size to have anastomosis with the infra-renal vena cava. Two threads of 5/0 polypropylene suture, 14 cm in length were used for posterior and anterior wall anastomosis respectively. Similarly, external iliac artery was controlled and arteriotomy was made by indigenously prepared laparoscopic knife (N0. 11 blade tied to one of the straight hand instruments). The arteriotomy was extended to appropriate size for anastomosis to the infra-renal aorta.

1st prize in the best video category in Urological society of India conference, Bangalore 2012

A hem o lok clip removal was used to unlock the clips; first, the proximal venous control followed by the distal venous control was released. Thereafter, arterial perfusion was achieved. Hemostasis at the anastomosis site, at the renal hilum and on the surface of both kidneys was checked. Pneumatic pressure was reduced to 6 mm Hg for better perfusion of the allograft.

Bladder was made partially full through previously placed Y set connected to Foley's catheter. Both ureters were reimplanted separately by modified Lich-Gregor technique. No stents were used.

A drain tube was placed in the pouch of Douglas. Port wounds were closed by Thompson Carter needle.

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