

atrophic kidney. The landmarks are well defined, and the dissection proceeds without any reflection of mesentery. The second case, a laparoscopic radical nephrectomy, demonstrates that the IVC can still be dissected, despite a larger kidney. Lateral retraction is used in this case. The third case is a hand-assisted laparoscopic donor nephrectomy. The colon is laterally placed and requires reflection medially. The IVC is still dissected first, to the level of the gonadal vein, which helps to identify the plane between the colonic mesentery and the retroperitoneal fat. Finally, another hand-assisted laparoscopic donor nephrectomy requires reflection of the duodenum, which lies on top of the IVC. Again, dissection begins at the upper portion of the IVC. Since 2003, 220 right-sided cases have been performed in this manner with a similar complication rate as the traditional method.

CONCLUSIONS: The "top-down" technique of dissection along the IVC from the upper renal pole to the lower pole is an effective technique for rapidly and consistently identifying the renal hilum in a right-sided laparoscopic nephrectomy.

Source of Funding: None

V956

ELECTIVE VACUUM ASSISTED CARDIOPULMONARY BYPASS IN THE SURGICAL TREATMENT OF RENAL NEOPLASMS EXTENDING INTO THE RIGHT ATRIUM

Paolo Ferrarese, Filippo Nigro, Enrico Scremin, Giuseppe Benedetto, Paolo Magagna, Caterina Piccin, Alessandro Fabbri, Andrea Tasca, Vicenza, Italy*

INTRODUCTION AND OBJECTIVES: A complex surgical approach is required when a neoplastic thrombus extends above the level of the suprahepatic veins or into the right atrium. This video describes a right radical nephrectomy and thrombus removal which are performed using a normothermic cardiopulmonary by pass (CPBP) without circulatory arrest.

METHODS: Surgical steps: bilateral subcostal incision; wide exposition of retroperitoneal vessels by incising the posterior peritoneum; section of the right renal artery between ligatures; positioning of Rumel tourniquet around left renal artery and vein and around inferior vena cava caudally to the thrombus; kidney dissection outside the Gerota's fascia; median sternotomy; right atrium and superior vena cava cannulation after systemic heparinization; cannulation of left femoral artery and vein; bypass circuit with a vacuum assisted venous drainage (VAVD) giving a negative pressure of 20-40 mmHg, without circulatory arrest or hypothermia; longitudinal cavotomy and tumor thrombus extraction; solid removal of surgical specimen; vascular suture and decannulation.

RESULTS: VAVD guarantees subtotal drainage of blood from suprahepatic and lumbar veins resulting in minimum blood loss at the time of cavotomy and possibility to accurately dissect the thrombus. Normothermic CPBP with VAVD avoids the potential complications associated with circulatory arrest and deep hypothermia such as haemorrhage, myocardial infarction, cerebral dysfunction, renal failure.

CONCLUSIONS: "San Bortolo" technique appears to be a safe and efficient solution in alternative to CPBP with deep hypothermia and circulatory arrest for the surgical treatment of neoplastic thrombi originating from kidney tumors.

Source of Funding: None

V957

TECHNIQUE OF ROBOTIC ASSISTED LAPAROSCOPIC DISTAL URETERECTOMY WITH PSOAS HITCH REIMPLANTATION

Christopher Whelan, Arcadia, CA; Jonathan Eandi, Timothy Wilson, Kevin Chan, Clayton Lau, David Josephson, Duarte, CA*

INTRODUCTION AND OBJECTIVES: The gold standard for treatment of upper-tract transitional cell carcinoma (TCC) is nephroureterectomy. For distal ureteral TCC, distal ureterectomy with ureteral reimplantation represents a treatment option. Multiple minimally-inva-

sive techniques have been introduced with the goal of replicating the open approach for this procedure. Currently, there is a paucity of literature for the use of robotic-assisted laparoscopic (RAL) management of distal ureteral TCC. We evaluated our experience with RAL management of distal ureteral TCC.

METHODS: A review of the surgical approach and techniques was performed. In addition, a retrospective chart review was completed on all patients who underwent distal ureterectomy with ureteral reimplantation at our institution.

RESULTS: Four patients with a mean age of 73.5 years underwent RAL distal ureterectomy with ureteral reimplantation for distal ureteral TCC. Mean operative time was 311 minutes (range 225-446 minutes), estimated blood loss 200 mL (range 100-350 mL), and mean length of hospital stay was 4.7 days. With a mean follow-up of 30.5 months (range 12-48 months), only one patient whose pathology exhibited tumor in periureteral tissue developed a recurrence.

CONCLUSIONS: RAL distal ureterectomy with ureteral reimplantation is a feasible management option for patients with low grade distal ureteral TCC.

Source of Funding: None

V958

HYBRID NOTES TRANSVAGINAL NEPHRECTOMY

Rene Sotelo, Robert De Andrade, Golena Fernandez, Roberto Garza, Daniel Ramirez, Camilo Giedelman, Eugenio Di Grazia, Oswaldo Carmona, Caracas, Venezuela; David Canes, Burlington, MA; Monish Aron, Mihir Desai, Inderbir Gill, Los Angeles, CA*

INTRODUCTION AND OBJECTIVES: Pure NOTES (Natural Orifice Transluminal Endoscopic Surgery) transvaginal radical nephrectomy has been performed only in cadavers and animal models because of technical difficulties in humans. Few cases of hybrid NOTES transvaginal radical nephrectomy (using 2 extraumbilical abdominal ports) have been reported with success in humans. In this video we present a hybrid transvaginal NOTES radical nephrectomy using transvaginal trocars (multi-channel in one case, single 12mm trocar in the others), and a transumbilical multi-channel single port.

METHODS: Transvaginal radical nephrectomy was performed in three patients with left sided kidney tumors in two and one right side. Triports (Advanced Surgical Concepts, Dublin, Ireland) were inserted in the umbilicus, and the vagina in case one. For these second and third case, presence of the uterus allowed space for a transvaginal conventional 10mm bariatric trocar and one Triport (Advanced Surgical Concepts, Dublin, Ireland) Visualization was performed interchangeably from umbilical and transvaginal views using the 5 mm flexible-tip endoeye camera (Olympus, Tokyo, Japan). Dissection, using straight or bent instruments, was performed predominantly transvaginally with the exception of hilar dissection and control. Specimen extraction was accomplished by the vagina access by an extended colpotomy.

RESULTS: Mean operative time was 155 minutes (range 220 to 95 minutes) and mean estimated blood loss was 250 cc. The patients had an uneventful postoperative course and were discharged 2 days after the procedure in case 1 and 2, and the case 3 was discharged 6 days. The first case was complicated by abscess in the renal fossa requiring percutaneous drainage. The second case had no complications. In the third case conversion to standard laparoscopy was necessary because of obesity and inflammation around the kidney. Pathology revealed clear cell carcinoma of 6.5 cm in with no local infiltration in one patient, chromophobe in the second case, and kidney atrophy in the third case.

CONCLUSIONS: Pure NOTES transvaginal nephrectomy is still technically demanding because of the absence of adequate instruments and surgical expertise in performing a safe and effective dissection. However our hybrid transvaginal technique assisted by a umbilical single port is an appealing alternative to further reduce morbidity, obtain a virtually scarless outcome, and safely develop increasingly complex transvaginal dissection techniques.

Source of Funding: None