

Robot-assisted Laparoscopic Pyeloplasty for “Huge” Hydronephrosis Causing Vena Cava Thrombus



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OBJECTIVE

To present a rare case of “huge” hydronephrosis causing distortion of large vessels and formation of a thrombus in the inferior vena cava. Multidisciplinary treatment was applied with particular focus on pyeloplasty utilizing a robot-assisted laparoscopic approach.

METHODS

A 20-month-old male presented to the emergency room severely ill with abdominal pain, nausea, vomiting, and fever and was subsequently transferred to the intensive care unit, in septic shock. An abdominal ultrasound revealed a large multilobular cystic structure in the right hemiabdomen, which was initially interpreted as an infected mesenteric cyst. CT scan revealed a huge hydronephrotic kidney crossing the midline, causing a mass effect that compressed and distorted the vena cava laterally, in addition to a thrombus between the hepatic vein and right renal vein. Intravenous Ceftriaxone and Amikacin, as well as anticoagulation therapy with low molecular weight heparin (Enoxaparin) were initiated. A nephrostomy tube was inserted that drained 900 mL of purulent urine. A full hematology investigation including protein C, S, and antithrombin III was carried out, excluding factor V Leiden and prothrombin mutation. All values were in the normal range. Dimercaptosuccinic Acid (DMSA) scan showed 30% function on the affected kidney and Voiding Cystourethrogram (VCUG) excluded any bladder pathology or reflux. Subcutaneous Enoxaparin was continued for 3 months, maintaining antifactor Xa in the therapeutic range (0.7-1 IU/mL). Ultrasound Doppler of the vena cava showed full resolution of the thrombus. Robot-assisted laparoscopic pyeloplasty was performed and significant reduction of the renal pelvis was carried out, taking care to preserve the calyces. Postoperative ultrasound 4 months after surgery showed a complete resolution of the hydronephrosis.

CONCLUSION

Giant hydronephrosis is a rare finding. Distortion of adjacent veins and formation of thrombosis should be kept in mind, as they are life threatening. A multidisciplinary collaboration is mandatory to ensure optimal treatment. UROLOGY 133: 240, 2019. © 2019 Elsevier Inc.



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