MINIMALLY INVASIVE AND ROBOTIC SURGERY

Rectal Hem-o-lok clip migration after robotassisted laparoscopic radical prostatectomy

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WU SD, RIOS RR, MEEKS JJ, NADLER RB. Rectal Hem-o-lok clip migration after robot-assisted laparoscopic radical prostatectomy. The Canadian Journal of Urology. 2009;16(6):4939-4940.

Introduction: Weck Hem-o-Lok clip migration into the bladder has been reported after robot-assisted laparoscopic radical prostatectomy (RALP). We report a case of Weck clip migration into the rectum presenting as a mass on colonoscopy.

Methods: A 61-year-old male with a prostate specific antigen level of 4.84 ng/ml underwent transrectal ultrasound guided biopsy of the prostate revealing a Gleason's 3 + 3 adenocarcinoma of the prostate involving 20% of the sampled tissue for the left apex. He was subsequently treated with a transperitoneal robot-assisted laparoscopic radical prostatectomy and bilateral pelvic lymphadenectomy. Weck Hem-o-Lok clips were used to ligate the prostate vascular

Introduction

Migration of Weck Hem-o-Lok (Teleflex, Research Triangle Park, NC) clips into the bladder has been documented after robotic-assisted laparoscopic radical prostatectomy (RALP). Patients typically present with dysuria, hematuria, or bladder calculi. We report a case of Weck clip migration into the rectum presenting as a rectal mass on colonoscopy in a patient 3 years after undergoing RALP.

Case presentation

Patient is a 61-year-old male without prior medical history that underwent a transrectal ultrasound guided

Accepted for publication September 2009

Address correspondence to Dr. Robert B. Nadler, Department of Urology, Northwestern University Feinberg School of Medicine, 675 North St. Clair Street, Galter 20-150, Chicago, Illinois 60611 USA *pedicles.* The vesicourethral anastomosis was performed using a double armed running technique.

Results: Final pathology demonstrated a Gleason 4 + 3 pT2cN0Mx adenocarcinoma of the prostate with negative margins. Four lymph nodes were negative for malignancy. No intraoperative complications occurred. Postoperatively, patient was found to have a Weck Hemo-Lok clip that migrated into his rectum. This was found on colonoscopy performed for diverticular disease of the colon. The clip was removed without complication. **Conclusions:** Judicious use of Weck clips during RALP and communication with physicians participating in patient care for those who have undergone RALP is crucial in minimizing complications and avoiding subsequent procedures.

Key Words: complication, Weck Hem-o-Lok clip, robotic prostatectomy

prostate biopsy in December 2005 for elevated prostate specific antigen (PSA) of 4.84 ng/ml. This revealed a Gleason 3 + 3 adenocarcinoma of the prostate involving 20% of one core from the left apex. He was treated with a robotic-assisted laparoscopic radical prostatectomy and bilateral pelvic lymphadenectomy in January of 2006. Pathology revealed a Gleason 4 + 3 pT2cN0Mx adenocarcinoma of the prostate with negative margins. Four lymph nodes were negative for malignancy. During the procedure, Weck Hem-o-Lok clips were used to ligate the prostate vascular pedicles. We performed our vesicourethral anastomosis using a double armed running technique as described by van Velthoven.¹ No extravasation of irrigation was noted upon completion of the anastomosis with hand irrigation of the bladder.

Patient's postoperative course was complicated by an ileus and he was discharged home on postoperative day 3 with a Foley catheter only, which was removed 2 weeks after surgery. Office cystoscopy performed 4 months after surgery for persistent E. coli urinary tract infections revealed three Weck hem-o-lock clips at the trigone of



Figure 1. a) A rectal lesion was identified 22 months after RALP on colonoscopy. After biopsy (X3), a Weck clip was extruded in the rectum (b). The clip was removed without complication (c).

the bladder. These were subsequently removed with rigid cystoscopy under general anesthesia. Recurrent urinary tract infections subsequently resolved.

In October 2007, patient was hospitalized for abdominal pain. Computed tomography scan of the abdomen and pelvis revealed circumferential thickening of the sigmoid colon with surrounding fat stranding suspicious for diverticulitis. Subsequent colonoscopy revealed a 6 mm submucosal nodule in the rectum and a sigmoid colon polyp that was biopsied, demonstrating colonic mucosa without pathologic change and showed granulation tissue. Follow up colonoscopy in November 2008 revealed the same submucosal nodule, Figure 1a that was again biopsied and extensively cauterized with pathology confirming normal colonic mucosa.

In April 2009, the same rectal lesion was identified on flexible sigmoidoscopy, but this time biopsy uncovered a Weck Hem-o-Lok clip in the wall of the rectum, Figure 1b. The clip was removed without complication, Figure 1c. Subsequent ongoing work up shows the patient's PSA is still undetectable.

Discussion

Hemostatic clip migration into the bladder has been reported in open,^{2,3} laparoscopic,⁴ and robotic-assisted laparoscopic radical prostatectomy.^{5,6} Weck Hem-o-Lok clips were first introduced in 1999 and are nonabsorbable polymer clips used in variety of laparoscopic procedures. Although use of Weck Hem-o-Lok clips has been found to be generally efficacious, significant morbidity, and at times mortality, has been reported with adverse clip events.⁵⁻⁸ In urologic laparoscopy, adverse events associated with use of Weck Hem-o-Lok clips have occurred predominately in nephrectomy cases with arterial bleeding being the most commonly reported complication.7 Upon review of the US Food and Drug Administration Manufacturer and User Facility Device Experience (MAUDE) database, Meng found 27 adverse events involving Weck Hem-o-Lok clips between January 1996 and July 2005.7 Ninety-six percent of

cases were during laparoscopic procedures with 44% of these being for nephrectomy, 26% for cholecystecomy and one report for prostatectomy. Blumenthal et al searched the MAUDE database from July 2005 to June 2007 and found 28 additional reported adverse events with two cases involving laparoscopic prostatectomy and two involving RALP.⁵ Two cases of these involved clip migration into the bladder after laparoscopic prostatectomy and RALP. The patient presented in this report underwent two cystoscopies, two colonoscopies, one sigmoidoscopy, and two hospital admissions for symptoms and treatments attributable to the migration of Weck Hem-o-Lok clips into the bladder and rectum. Although each procedure occurred without additional complication, risk is certainly increased, in addition to cost, time, and disruption in quality of life.

Communication with physicians participating in care of patients who have undergone RALP is crucial. It is not uncommon in our experience to be able to palpate Weck Hem-o-Lok clips on digital rectal exam. Informing gastroenterologists and other caregivers may avoid unnecessary alarm and procedures for the patient. As RALP becomes more widely utilized for the treatment of prostate cancer, the technique will likely evolve to improve outcomes and minimize complications. The latter is highly dependent on timely and accurate reporting of adverse events, whether they are common or infrequent.

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