



Type II Hem-o-lok clip migration and stone formation in robot assisted laparoscopic prostatectomy patient: A case report and serial cases review

Andrea Nistiana, Sawkar Vijay Pramod^{*}, Ferry Safriadi

Department of Urology, Hasan Sadikin Academic Medical Center/Faculty of Medicine, Universitas Padjadjaran, Bandung, Indonesia

ARTICLE INFO

Keywords:

Complications
Laparoscopic
Robot-assisted

ABSTRACT

Hem-o-lok clips (HOLC) migration after laparoscopic surgery may cause delayed postoperative issues. We present a delayed lower urinary tract symptoms (LUTS) and urinary stones due to HOLC migration from previous radical prostatectomy approximately 10 years ago. A 88-year-old man presenting clinic with LUTS; previously received robotic-assisted laparoscopic radical prostatectomy (RALP) 10 years ago. HOLC and stones from the bladder were extracted with cystoscopy lithotripsy. Latest follow-up noted complete resolution of symptoms. RALP may cause HOLC migration with variable duration of LUTS symptoms occurring, reaching up to 10 years.

1. Introduction

Hem-o-lok clips (HOLC) were first introduced in 1999. The nonabsorbable polymer clip had been used to a greater degree in comparison to suturing and knot-tying during surgeries, concurrent with the recent increased frequency of laparoscopic surgeries. The surgical clips aids in closing tissue structures and preventing intraoperative bleeding. In laparoscopic radical prostatectomy (LRP) or robotic-assisted laparoscopic radical prostatectomy (RALP). Increased use of RALP and HOLC to secure the vessel were noted to be one of the possible causes of increased surgical clip migration. In the majority of cases, HOLC migration causes lower urinary tract symptoms (LUTS). Yu et al. had classified the migration into three types: type I (resulting in lower urinary tract symptoms or LUTS), type II (leading to stone formation, gross hematuria, or bladder spasm), and type III (spontaneous expulsion of the HOLC after surgery).¹

We present a case of a patient with HOLC migration with subsequent stone formation on the bladder with previous history of radical prostatectomy.

2. Case presentation

An 88-year-old man presenting to the urology clinic with the chief complaint of difficult urination. The patient had felt slight pain during urination and went to the bathroom more frequently compared to normal. No previous history usage of indwelling catheter in home. The patient was previously treated with RALP approximately 10 years for prostatic adenocarcinoma. No hematuria, pyuria, or passing stones during urination were reported. The patient looked mildly ill and fully conscious.

Intermittent flow was detected with uroflowmetry (Fig. 1). Urinalysis was within normal limits, no microhematuria or hematuria were reported. Complete blood count (CBC) had reported increased urea (63 mg/dl) and creatinine (2.87 mg/dl) levels. The patient was planned for lithotripsy on bladder wall. Ultrasonography (USG) for the kidneys had found simple cysts on both kidneys. Hyperechoic mass on prostatic part of urethra was found by USG with possible blockage due to urinary stones (Fig. 2).

The patient had received no prior antimicrobial prophylaxis prior to the surgery; lithotripsy performed under spinal anesthesia. HOLC and stones from the bladder were extracted (Fig. 3). The clip was found on 07:00 position, aggregated with urinary stones. The surgery was

^{*} Corresponding author. Department of Urology, Faculty of Medicine, Universitas Padjadjaran, Bandung, West Java, Indonesia.

E-mail address: doktervj@yahoo.co.id (S.V. Pramod).

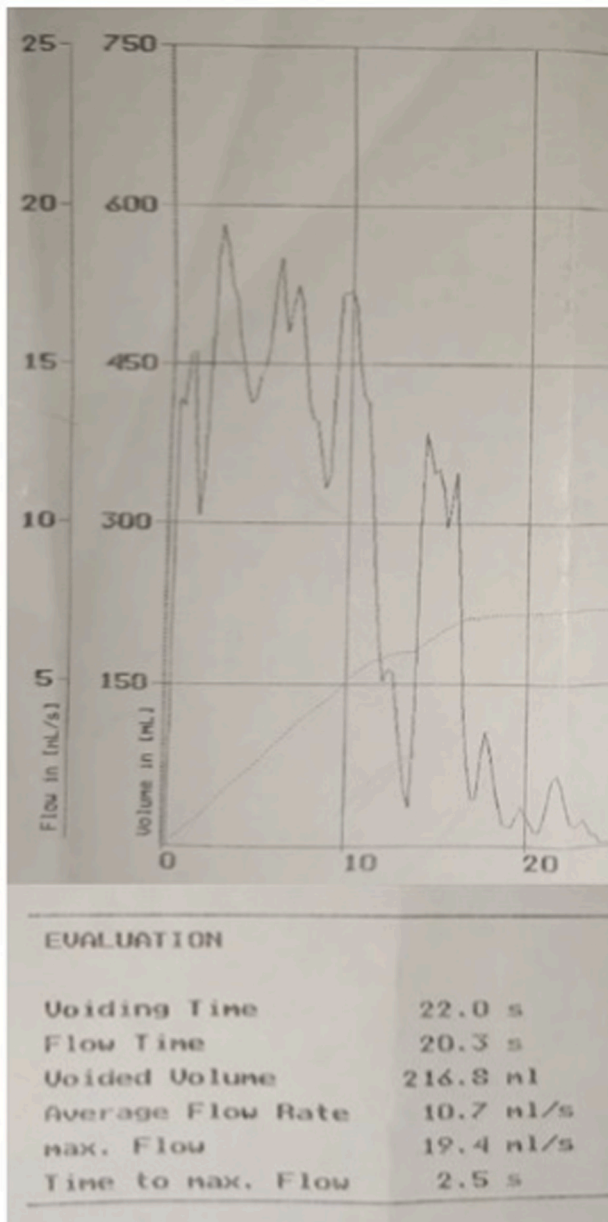


Fig. 1. Uroflowmetry results.

uneventful and the patient was discharged one day after the procedure.

3. Discussion

Clip migration after laparoscopic surgery was considered rare after RALP. The occurrence of clip migration after previous RALP was reported in several other cases. In a case series by Turini et al. there were 1.4% patients (followed-up in a single institution from 2006 to 2011) subsequently presented to the clinic with LUTS symptoms. Endoscopic extraction was performed successfully on the patients included on the case series and no significant differences in the characteristics of the patients.² The timing of HOLC migration is apparently random, some



Fig. 2. USG of the bladder.

cases had reported cases as early as 1 year while there were other cases that had reported delayed migration, 5 years after receiving RALP. The previous study had noted that relatively distal placement of HOLC relative to the neurovascular bundles combined with the reduced thickness of the patients' posterior bladder wall had contributed to the clip migration.³ The increased popularity in RALP due to its advantages from reduction of complication and length of stay had been already studied prior. RALP is still in comparative infancy; the tools utilized, specifically surgical clips, are prone to dislodging from its initial suture site, in cases presenting as migrated HOLC after RALP or LRP.⁴

Similar reports of HOLC migration had been reported. Compared to the other types, spontaneous expulsion of HOLC migration is extremely rare; only one case report at the present had described the spontaneous expulsion and resolution of LUTS in patient with prior history of LRP.⁵ In comparison with our case, the patient had presented with relatively minor symptoms and no hematuria, with even the urinalysis results completely within normal limits. This case is unusual related to the duration of the symptoms manifesting. Other cases presented within less than 1–2 years of the surgery; with one specific case presenting with spontaneous expulsion of the surgical clips and its spontaneous resolution.⁵ The case was treated with similar methods with other cases; namely, with laser fragmentation followed with the extraction of the clip.

4. Conclusion

Migration of HOLC with prior RALP is increasing in frequency. LUTS and urinary stones may produce normal uroflowmetry results, increased caution is advised in such patients. One of the unique points of this case would be HOLC migration with extremely delayed presentation, far longer compared to cases previously treated with RALP and with similar indications.

Declaration of competing interest

None.



Fig. 3. HOLC and stones after extraction.

References

1. Yu CC, Yang CK, Ou YC. Three types of intravesical hem-o-lok clip migration after laparoscopic radical prostatectomy. *J Laparoendosc Adv Surg Tech.* 2015;25(12):1005–1008.
2. Turini GA, Brito JM, Leone AR, et al. Intravesical hemostatic clip migration after robotic prostatectomy: case series and review of the literature. *J Laparoendosc Adv Surg Tech.* 2016;26(9):710–712.
3. Ohyama T, Shimbo M, Endo F, Hattori K. Late-onset Hem-o-Lok® migration into the bladder after robot-assisted radical prostatectomy. *IJU Case Rep.* 2022;5(1):49–52.
4. Singh I. Robotics in urological surgery: review of current status and maneuverability, and comparison of robot-assisted and traditional laparoscopy. *Comput Aided Surg.* 2011;16(1):38–45.
5. Mora ER, Galí OB, Garin JJAL, Arango O. Intravesical migration and spontaneous expulsion of a hem-o-lok polymer ligating clip after laparoscopic radical prostatectomy. *Urology.* 2010;75(6):1317.