

# Hem-o-Lok<sup>®</sup> clip eroding into the urethra following laparoscopic radical prostatectomy: A case report and review of literature

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## ABSTRACT

Hem-o-loc clips have been used for vascular control in laparoscopic surgery. We describe a case presenting with lower urinary tract symptoms after laparoscopic radical prostatectomy. Evaluation revealed migrated hem-o-loc clips causing obstruction and symptoms in bladder neck region. Clip removal with endoscopy relieved the symptoms. Diagnosis warrants high index of suspicion as clips are radiolucent and other more common differential diagnosis like bladder neck contracture may have similar presentation. For the prevention, loose clips should be actively searched for and retrieved from abdomen and clip application near proposed anastomotic site should be avoided.

**Key words:** Erosion, Hem-o-Lok, prostatectomy

## INTRODUCTION

Securing of pedicles during radical prostatectomy prompts for preferential use of athermal means to avert injury to the neurovascular bundle. The use of Hem-o-Lock (Weck Surgical Instruments, Teleflex Medical, Durham, NC) clips (HOLC) has been well-described for the purpose. In the past 2 years, there have been a few reports describing erosion of these clips in the urethra causing obstruction. We describe the presentation, treatment offered in our case, and discuss the possible methods to avoid this complication.

## CASE REPORT

A 56-year-old male patient underwent laparoscopic radical prostatectomy (LRP) for localized carcinoma

prostate (T2bN0M0). The urethrovesical anastomosis was performed using two monocryl sutures tied at the center. Suturing started at six o'clock position and subsequently finished extravasically at 12 o'clock. All the surgical margins were free and the Gleason score was three + three. Intraoperatively, the lateral pedicles were secured with hemolock clips [Figure 1a, b]. Following the retrieval of specimen, an arterial bleeder near the transected urethra was secured with a Hem-o-Lok clip.

Three months after the surgery, the patient presented with obstructive lower urinary tract symptoms. An ascending urethrogram revealed obstruction at the level of bladder neck. On cystoscopy, the anterior urethra was normal. There was a narrowing at the anastomotic site and two Hem-o-Lok clips were seen protruding in the urethra [Figure 1c]. Clips were removed with a forceps [Figure 2 a–d] and the anastomotic segment dilated with a balloon dilator (6 atm for 4 min). Postoperatively, he voided with a good flow. Subsequently, he required recystoscopy and urethral balloon dilatation at 2 years' followup for the recurrence of LUTS and now remains asymptomatic at 3 years post-LRP.

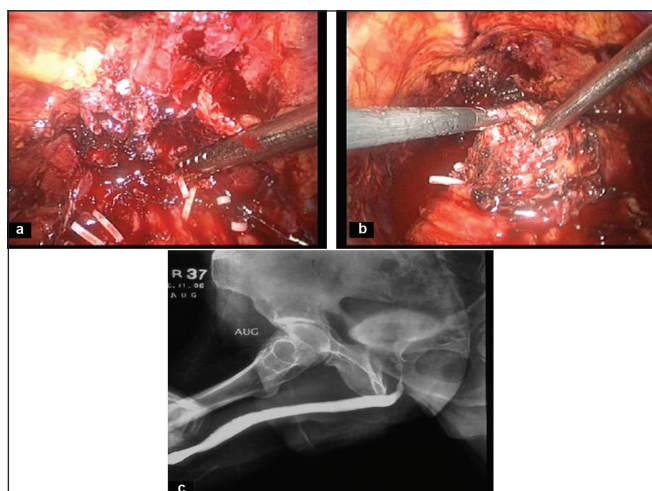
## DISCUSSION

In a series of over 500 LRPs, two of the bladder neck contractures (BNCs) were associated with HOLC migration and erosion into the vesicourethral anastomosis—one evidenced migration in bladder and one patient developed an anastomotic leak secondary to an HOLC that migrated

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<b>Quick Response Code:</b> 	<b>Website:</b> <a href="http://www.indianjurol.com">www.indianjurol.com</a>
	<b>DOI:</b> 10.4103/0970-1591.74468



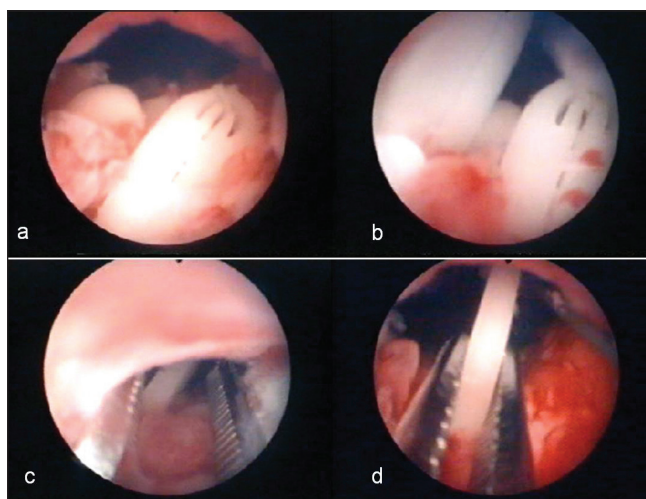
**Figure 1:** (a, b) Hem-o-Loc clip application in the region of vesicourethral anastomosis; (c) postoperative ascending urethrogram at 3 months showing anastomotic narrowing

into the bladder neck. Authors suggested that if early BNC or unexplained urinary retention occurs after LRP, one should have a high index of suspicion for migration of HOLC. Clip use should be minimized on tissue immediately adjacent to the anastomosis, and every effort should be made to retrieve loose clips after the procedure.<sup>[1]</sup> The authors in the same article have reviewed the data from the United States food and drug administration manufacturer and user facility device database (MAUDE) to identify similar cases. The authors following this incidence abstain from use of Hem-Lok clips in the vicinity of the seminal vesicle and the vas deference.<sup>[1]</sup>

Moser *et al.* report two cases of urethral erosion of Hem-o-Lok clips after robot-assisted laparoscopic prostatectomy in patients who presented with symptoms of BNC.<sup>[2]</sup>

In a case report described by Tunnard *et al*, a 67-year-old gentleman returned 8 months after LRP followup due to intractable urinary symptoms. At this stage, the patient was planned for a rigid cystoscopy and bladder neck dilatation; during the procedure, a Hem-o-Lok® (Weck Surgical Instruments, Teleflex Medical, Durham, NC) was found in the bladder, having migrated from the urethrovesical anastomosis, and was successfully removed. On repeat cystoscopy 3 months later, a further Hem-o-Lock clip was found eroded through the vesicourethral anastomosis and was successfully removed with the aid of a holmium laser.<sup>[3]</sup>

In our opinion, Hem-o-Lok® clips should not be used for control of bleeders at the bladder neck and in the vicinity



**Figure 2:** (a-d) Cystoscopic view of intruded Hem-o-Loc clips and removal of clips with the help of forceps

of the urethrovesical anastomosis. If at all they are applied, all such clips should be removed before commencing the vesicourethral anastomosis. All attempts should be made to remove any loose lying clips in the abdomen as literature suggests that they have the potential to migrate.<sup>[3]</sup>

All patients with persistent lower urinary tract symptoms should be evaluated for such migrated clips. Cystoscopy is an important tool to evaluate such patients. This becomes significant in view of radiolucent nature of HOLC. Literature<sup>[3]</sup> suggests that these clips can also be removed with the help of Holmium laser, the advantage being of hemostasis if required, nevertheless in our case we have retrieved the clips with a nephroscope and a forceps.

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**How to cite this article:** Ganpule A, Dhawan DR, Desai MR. Hem-o-Lok® clip eroding into the urethra following laparoscopic radical prostatectomy: A case report and review of literature. *Indian J Urol* 2010;26:580-1.

**Source of Support:** Nil, **Conflict of Interest:** None declared.