

## CASE REPORT

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# Iatrogenic vesicorectal fistula

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### Abstract

Vesicorectal fistula and urethrorectal fistula are uncommon complications of urological endoscopic surgery. Several cases of iatrogenic urethrorectal fistulas due to urologic procedures have been reported.

This is the first report of a case of vesicorectal fistula occurring during endoscopic resection of a bladder lesion. Because of the persistence of the fistula after a conservative follow-up period, a single stage primary repair with omental flap interposition with no colostomy was performed. In the follow up of the patient, no fistula or bladder mass were observed. A single stage primary repair with the interposition of an omental flap is usually a safe and sufficient method of treatment

**Key words:** vesicorectal, fistula, iatrogenic

### INTRODUCTION

Cystic vesicorectal fistula (VRF) is usually seen secondary to diverticular disease or inflammatory bowel diseases.<sup>1,2</sup> Acquired RVF has been classified into either a benign fistula (secondary to Crohn's disease, trauma,<sup>15</sup> perirectal sepsis, diverticulitis, iatrogenic injury (or foreign body), or a malignant fistula (secondary to neoplasms, metastasis, radiation, surgery or medical treatment of invasive cancer).<sup>3,4</sup>

A urethrorectal fistula (URF) occurs during the laparoscopic or open surgery of malignant prostatic disease.<sup>5</sup> The mucosal injuries or perforations of the bladder are rare complications of endourological surgery. However the VRF has not been reported as a complication of endoscopic resection of bladder lesions. This is the first case reported in the literature. A single-stage surgical repair, without colostomy, was successfully achieved.

### CASE REPORT

A 56-year-old man underwent transurethral resection for a bladder lesion in 1991; a standard ACMI machine was used with moderate cutting and coagulating current. The patient was referred to us with the presumptive diagnosis of VRF on the first day after surgery due to complaints of fecaluria,

pneumaturia, supra-pubic pain, and urine leakage from the rectum. *Physical examination* revealed supra-pubic tenderness without peritoneal signs. Rectal examination revealed a 1 cm fistula oozing urine. The *microscopic examination* of the original resected bladder lesion was reported as cystitis cystica. There was no other significant medical history.

Cystoscopically a 1 cm fistula orifice was disclosed in the left posterior wall of the bladder a few days after the original endoscopic procedure; both ureteral orifices were intact. Extravasation of contrast medium through the fistula to the rectum was demonstrated on oblique cystography.

The first management approach included:

- A) The placement of an indwelling urethral catheter,
- B) The administration of antibiotics (cefoperazone-sulbactam and metronidazole), and
- C) The cessation of enteral nutrition and commencement of parenteral nutrition.

After a 15-day follow up period, pneumaturia persisted. Second look cystoscopy showed that there was no regression in the fistula. Surgery was planned. The suprapubic area was accessed through a midline infra-umbilical incision, the posterior bladder wall, the lower segment of the left ureter, the anterior rectal wall and the fistula tract, which was 3 cm above the level of the trigone were clearly exposed. The fistulous tract and the necrotic tissue around it were excised with a margin of 3-4 mm healthy tissue. The anterior rectal wall, perirectal and surrounding

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tissues were closed separately in three layers. The posterior bladder wall was closed watertight in three layers with catgut sutures; and a 20F urethral foley catheter was left indwelling. A pedicle flap of omentum with vascular supply was mobilized and placed between the rectum and bladder to enhance restoration. Broad-spectrum antibiotics were continued for five days after surgery. Liquid diet was started on postoperative day 1 and a regular low fiber diet was started on day 3. Anal dilation was performed daily for three days. The patient recovered uneventfully and was discharged on the fourth postoperative day. The urethral catheter was removed on the 14th postoperative day after normal cystographic findings. Follow-up urine cultures were negative. One month after the surgery, cystoscopic examination revealed no fistula. The patient was followed up for six months and recurrence didn't occur.

## DISCUSSION

Iatrogenic VRF is an unusual complication of urological operations and its management is often complex. Clinical findings of VRF include pneumaturia, fecaluria, and urine leakage from the rectum<sup>6-8</sup>. The exact diagnosis is made by cystoscopy (visualizing the fistular orifice) and by cystography (which usually delineate the fistulous tract). In one case a VRF was demonstrated on renal scan [Byukdereli G et al: Clin Nucl Med. 2005 ].

Depending on the age, nature and size of the fistula, one can manage the situation with any combination of the following (with or without colostomy and/or cystostomy<sup>3</sup>): conservative management, simple repair, or complex surgical procedures.

The initial management should include placement of an indwelling urethral catheter and administration of broad-spectrum antibiotics.<sup>9</sup> Sometimes one has to resort to suprapubic drainage as Thurairaja<sup>10</sup> did: his 46-year-old patient had suffered from a VRF after falling onto a chair; he received conservative management with antibiotics for 3 weeks and urinary diversion with a suprapubic catheter for 5 weeks; at the 8th week of follow-up, CT scan without contrast showed no gas in the bladder.<sup>10</sup> If, as happened to our patient, this conservative management is not successful, one has to resort to surgery.

Several surgical procedures have been described:

- The simplest and minimally invasive procedure is the application of hemoclips to the fistula limbs rectoscopically.<sup>1</sup> We do not recommend this technique as we have previously noticed the formation of lithiasis around metal clips that are constantly bathed in urine.<sup>15</sup>

- A transvesical approach,<sup>11</sup>
- A suprapubic approach
- A laparoscopic<sup>5,8,9</sup> or robotic<sup>7</sup> approach,
- Preoperative bowel preparation (PBP) was suggested when rectal closure with no colostomy is considered,<sup>12,13</sup>
- An omental flap interposition provides safe primary rectal repair without colostomy in the absence of PBP [Borland RN, Walsh PC: J Urol 1992].

We believe that meticulous rectal repair in 3 layers, with anterior rectal wall, perirectal tissues and local tissues, allows safe closure of the fistula without diversion colostomy.

Our technique seems a safe, less invasive and highly effective option for the management of iatrogenic VRF.

## CONCLUSION

In conclusion, VRF is a dreaded complication of endoscopic surgery. In order to avoid it, the bladder resection should be performed under low bladder tension and low electrocautery level. A single stage primary repair with the interposition of an omental flap is usually a safe and sufficient method of treatment.

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