CASE REPORT

TJG
The Turkish Journal of Gastroenterology

Colovesical fistula as a complication of colonic diverticulosis: diagnosis with virtual colonoscopy

Işılay NADİR[1], Yasemin ÖZİN[1], Zeki Mesut Yalın KILIÇ[1], Dilek OĞUZ[1], Aysel ÜLKER[1], Kemal ARDA[2]

Departments of, [1]Gastroenterology, [2]Radiology, Yüksek İhtisas Education Hospital, Ankara

A 65-year-old female patient admitted to our clinic with complaints of abdominal pain and watery diarrhea. She was diagnosed with colovesical fistula based on virtual colonoscopy findings. Since endoscopic and other radiological diagnostic tools were not able to establish a definite diagnosis, we found this case suitable for presentation.

Key words: Colovesical fistula, diverticulitis, virtual colonoscopy

Kolon divertikülünün komplikasyonu: Sanal kolonoskopi ile tanı konulan kolovezikal fistül olgusu

Abdominal ağrı ve sulu diyare şikayeti olan 65 yaşında kadın hasta kliniğimize kabul edildi. Endoskopik ve konvansiyonel radyolojik yöntemlerden sonuç alınamadı. Bu çalışmada sanal kolonoskopi ile kolovezikal fistül tanısı konulan olgu sunuldu.

Anahtar kelimeler: Kolovezikal fistül, divertikülit, sanal kolonoskopi

INTRODUCTION

Diverticular diseases are common in the Western populations. Although the majority of the cases are asymptomatic over their lifetime, the disease becomes symptomatic when complications occur. These complications are bleeding, diverticulitis, peridiverticular abscess, perforation, stricture, and fistula formation (1,2).

The diagnostic procedures proposed in the evaluation of colovesical fistula complicating diverticulitis are various, and their effectiveness is still not well established. We present a case that was diagnosed with virtual colonoscopy.

CASE REPORT

A 65-year-old woman admitted to our clinic with left lower quadrant pain and watery diarrhea occurring five to six times a day. Physical examination was unremarkable. Abnormal laboratory findings were as follows: white blood cell count 22800/mm^3, blood urea nitrogen 52 mg/dl and creatinine 1.29 mg/dl. Other hematological and biochemical results were within the normal limits. A thickness of 6.2 mm was found in the wall of the left colon on abdominal ultrasonography.

The colonoscope could not be passed through the proximal sigmoid colon. Multiple diverticula were observed in the distal sigmoid colon. A barium enema was administered to see the proximal part of the colon, but the barium enema came back from the anus.

After unsuccessful attempts of endoscopic and radiological examinations of the colon, a virtual colonoscopy was performed, during which, air passed to the urinary bladder but did not pass to the dis-

Address for correspondence: Işılay NADİR
Fatih University School of Medicine
Department of Gastroenterology
Beştepe, Ankara, Turkey
E-mail: nadirisilay@yahoo.com.tr

Manuscript received: 06.10.2009 **Accepted:** 03.12.2009

Turk J Gastroenterol 2011; 22 (1): 86-88
doi: 10.4318/tjg.2011.0163

tal colonic segments (Figure 1). On abdominal computed tomography, a soft and air density lesion favoring an abscess in appearance was seen close to the uterus, small intestine segments and the urinary bladder.

Based on these findings, the patient was diagnosed with colovesical fistula and scheduled for surgical treatment. Sigmoid colon resection and Hartman colostomy were performed. Examination of the resection material showed the presence of multiple diverticular structures and fistulas in the wall of the colon. On microscopic examination, superficial epithelium had created a hole towards the muscularis externa to form a diverticulum (Figure 2). The fistula tract consisted of colonic mucosa on one side and mucosa of the urinary bladder on the other. The postoperative period was uneventful, and the patient was discharged on the 10th postoperative day.

DISCUSSION

Diverticular diseases are responsible for approximately 56.3% of colovesical fistulas, and this complication occurs in 2% of diverticular disease cases (2,3). The primary causes of colovesical fistulas are diverticula, malignant disorders and Crohn's disease. The other less common causes are radiotherapy, trauma and bladder carcinoma (2). Fistula development occurs either between two adjacent structures or between an abscess and an adjacent structure. In the present case, the diverticula between the colon and the bladder had been perforated and formed a fistula.

The diagnostic methods were reviewed in a previous study of 66 colovesical fistulas. In 41 patients, sigmoidoscopy was performed and fistula was found in only three of them. In 56 patients, abdominal X-ray was performed and revealed air-fluid levels in the urinary bladder in 16 patients. On the other hand, fistula was detected in only 17% of patients with barium enema (2). In our case, due to the spasm of the sigmoid colon, barium study and colonoscopy were unsuccessful, and the diagnosis was possible using virtual colonoscopy. In such patients, virtual colonoscopy may be the most appropriate alternative diagnostic tool when other techniques fail. Furthermore, it is a noninvasive procedure comfortable for the patient.

A cystoscopy or cystography might also be helpful in these cases. Cystoscopy was found to be the most accurate test to detect fistulas (44-46.2%) followed by barium enema (20.1%) (4,5). These procedures were not performed in our patient since the initial clinical presentation was not strongly suggestive of colovesical fistula.

The most common symptom associated with colovesical fistula is pneumaturia (77-90.1%) followed by dysuria (45%), fecaluria (36%), hematuria (22%), orchitis (10%), abdominal pain, and diarrhea (4,6,7). Pneumaturia should raise the suspicion of enterovesical fistula and is often associated with a persistent urinary tract infection. In our patient, the main symptoms were diarrhea and abdominal pain.

Figure 1. Virtual colonoscopy image revealed the presence of colovesical fistula.

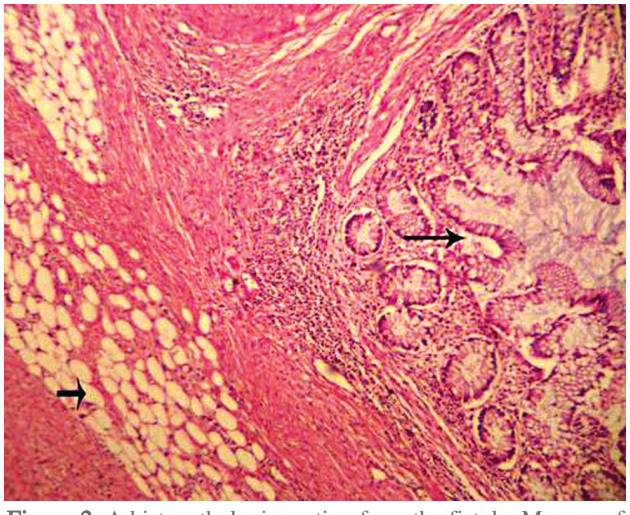

Figure 2. A histopathologic section from the fistula. Mucosa of the colon and the urinary bladder are adjacent to each other. Thick arrow indicates serosal adipose tissue and thin arrow indicates colonic surface epithelium.

Colovesical fistula is a rare complication, and anamnesis, barium study and cystoscopy may be helpful in the diagnosis. Virtual colonoscopy is a noninvasive alternative procedure when the diagnosis can not be made by colonoscopy and barium study.

REFERENCES

1. West AB, Losada M. The pathology of diverticulosis coli. J Clin Gastroenterol 2004; 38: 511-6.
2. Pollard SG, Macfarlane R, Greotorex R, et al. Colovesical fistula. Ann R Coll Surg Engl 1987; 69: 163-5.
3. Ward JN, Lavengood RW, Nay HR, Draper JW. Diagnosis and treatment of colovesical fistula. Surg Gynecol Obstet 1970; 130: 1082-90.
4. Garcea G, Majid I, Sutton CD, et al. Diagnosis and management of colovesical fistulae; six-year experience of 90 consecutive cases. Colorectal Dis 2006; 8: 347-52.
5. Driver CP, Anderson DN, Findlay K, et al. Vesico-colic fistulae in the Grampian region: presentation, assessment, management and outcome. J R Coll Surg Edinb 1997; 42: 182-5.
6. Wig JD, Kochhar R, Goenka MK, et al. Colovesical fistula complicating colonic diverticulosis. Indian J Gastroenterol 1995; 14: 73-4.
7. Najjar SF, Jamal MK, Savas JF, Miller TA. The spectrum of colovesical fistula and diagnostic paradigm. Am J Surg 2004; 188: 617-21.