

Ileovesical fistula secondary to chemotherapy for follicular non-Hodgkin lymphoma: A case report and review of the literature

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Enterovesical fistulas are rare complications of malignancies, diverticulitis, inflammatory bowel diseases, radiotherapy, and traumas involving the colorectal and pelvic region. In this study, an ileovesical fistula that occurred during chemotherapy for non-Hodgkin lymphoma is presented. The patient had acute abdomen and multiple comorbidities, and ileovesical fistula was diagnosed during the operation. The affected intestinal segment was resected, and an end-to-end anastomosis was performed with a primary bladder repair. This is a reliable treatment method for such cases.

Key words: Fistula, chemotherapy, lymphoma

Foliküler non-Hodgkin lenfomada kemoterapiye ikincil olarak gelişen ileovezikal fistül: Olgu sunumu ve literatür incelenmesi

Enterovezikal fistüller kolorektal ve pelvik bölgede gelişen maligniteler, divertiküler hastalıklar sonrasında, inflamatuvar hastalıklar, radyoterapi ve travma sonrasında oluşabilen nadir komplikasyonlardır. Bu çalışmada, foliküler non Hodgkin lenfomada kemoterapi sırasında oluşan bir ileovezikal fistül olgusu sunulmuştur. Akut karın nedeniyle ameliyata alınan hastada ileovezikal fistül saptanmış olup etkilenen barsak segmenti rezeksiyonu, uç uca anastomoz ve primer mesane onarımı yapılarak hasta tedavi edilmiştir.

Anahtar kelimeler: Fistül, kemoterapi, lenfoma

INTRODUCTION

Enterovesical fistulas are relatively rare complications that can be observed after inflammatory bowel diseases, diverticulitis, colorectal and pelvic malignancies, radiotherapy, and traumas (1,2). To date, particularly in European countries, the most commonly reported underlying cause for this complication is diverticulitis (1). We present a patient who developed an ileovesical fistula while undergoing chemotherapy due to follicular non-Hodgkin lymphoma.

CASE REPORT

A 68-year-old male who had been under chemotherapy (50 mg/m² doxorubicin, 750 mg/m² cyclophosphamide, 1.4 mg/m² vincristine, and prednisone 100 mg - CHOP regimen) for the past two months for follicular non-Hodgkin lymphoma was reevaluated due to his complaints of burning sensation while urinating and abdominal pain for the last one month. Consequently, he developed pneumaturia and fecaluria as he was about to undergo new examinations for those complaints. The pa-

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tient was admitted to our Emergency Unit because of a severe abdominal pain, nausea, vomiting, fever, and overall unstable health. On physical examination, his body temperature was 36.8°C, pulse 100/min, respiratory rate 22/min, and blood pressure 120/70 mmHg, and moderate distension and rebound tenderness were noted. Laboratory examinations were as follows: hemoglobin 9.84 g/dl, hematocrit 30.0%, leukocyte 65,900/mm³, and thrombocyte 309x10³/mm³. Abdominal computed tomography (CT) demonstrated intraabdominal free air and fluid accumulation (Figures 1 A and B). The patient underwent an urgent surgery. Exploration revealed the anterior wall of the distal ileal segment adherent to the bladder, with a fistula and 0.5 cm perforation between the two structures. Extravesical purulent collection was found. Partial ileal resection, end-to-end anasto-

mosis and primary bladder repair were performed. Histopathological examination revealed tumor infiltration, necrosis and tumoral areas belonging to the malignant lymphoma in the intestinal wall; the ileovesical fistula was thought to have developed secondary to chemotherapy (Figure 2). The patient had an uneventful recovery and was discharged on the 18th postoperative day.

DISCUSSION

While the etiology of enterovesical fistula includes many different conditions, they are frequently seen as a complication of inflammatory and neoplastic diseases (2). Lymphoma-related enterovesical fistulas are known to be considerably rare cases. To the best of our knowledge, the current case of ileovesical fistula and perforation occurring as a result of chemotherapy for follicular non-Hodgkin lymphoma is the second such case in the English literature. Ansari *et al.* (3) reported a colovesical fistula development due to cytotoxic (CHOP-regimen) therapy against non-Hodgkin lymphoma, which was an uncommon consequence. In their report, the patient had febrile neutropenia without signs of acute abdomen, and there was no perforation at the end of the first cycle of cytotoxic therapy. In the present report, the patient was admitted to the hospital with acute abdomen signs and symptoms and he had no febrile neutropenia. The chemotherapy regimens applied in these two cases were the same; only the fistula localization was different. Immunohistochemical analyses demonstrated a diffuse and strong reaction with bcl-2 and CD20, whereas positive nuclear reaction was detected with bcl-6 in many tumor cells. Presence of necrotic areas in the histopathological examination suggested that the fistula may be associated with chemotherapy. Long-term remissions achieved with chemotherapy and the insignificant nature of fistular symptoms may delay the diagnosis when this complication is not considered (4). As a result, early diagnosis of enterovesical fistulas is very difficult. The most frequent signs and symptoms are associated with recurrent urinary tract infections, fecaluria and pneumaturia (5). However, those classical urinary signs are observed in only 50% of enterovesical fistula cases (2). The presence of unusual gram (+) bacteria in the urine associated with pneumaturia should alert the physician regarding the possibility of enterovesical fistula (6). Therefore, despite the advances in diagnostic and therapeutic methods, treatment

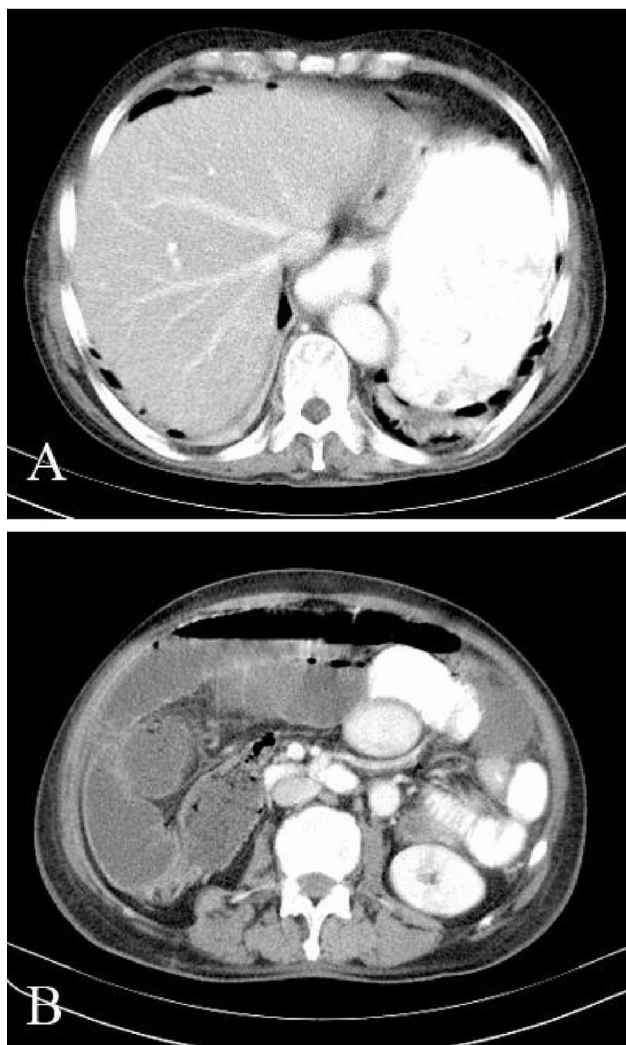


Figure 1. Preoperative abdominal tomography showing intraabdominal free air-fluid and dilatation in small intestinal loops.

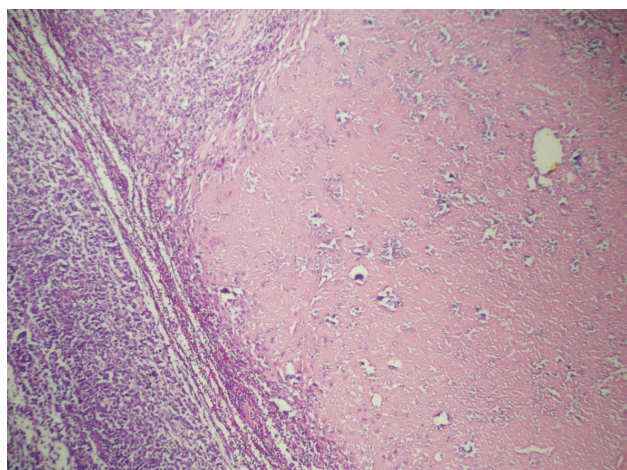


Figure 2. Diffuse necrotic changes that developed as a result of chemotherapy administered for malignant lymphoid infiltration (H&E, x40).

and diagnosis of enterovesical fistulae may be delayed. During the diagnostic process, barium enema, cystography, cystoscopy, endoscopy, and abdominal tomography are the most commonly employed modalities (2,5). However, the acute abdomi-

nal condition in our patient due to the perforation of the ileovesical fistula necessitated performing emergency surgery, and the diagnosis was reached during the operation. Fistulous communication can be detected by preoperative abdominal tomography, as expected, and its diagnostic rate is 83.3% (7,8). However, we were unable to detect the fistula, and CT scan showed only intraabdominal free air and fluid accumulation. Since abdominal tomography is one of the most effective modalities for diagnosis of enterovesical fistula, it is recommended as a must preoperatively (2). Surgery is the most effective treatment for enterovesical fistulae. Primary resection and anastomosis of the affected intestinal segment along with primary bladder repair is a reliable method (2,3,5). However, some surgeons primarily perform omental interposition between the bladder and intestine in such cases (3,9,10). As inflammatory and neoplastic conditions are considered most frequently in the differential diagnosis of enterovesical fistulae, which encompass many factors in their etiology, development of such a complication in patients under chemotherapy should be noted as well.

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