

Multiple Intestinal Transections Secondary to Aortobifemoral Grafting: Case Report

Aortobifemoral Greftlemeye Sekonder Çoklu İntestinal Yaralanma

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ABSTRACT Aortoenteric fistula is classified as primary or secondary. We report a case in which multiple intestinal transections secondary to aortobifemoral grafting were developed. A 56-year-old male patient admitted to our hospital presenting with tiredness, exhaustion, fever and purulent drainage from bilateral femoral incisions. He had been operated for aortobifemoral bypass grafting four months ago. Intestinal perforation and graft transposition into the intestine were detected with computerized tomography. Infected aortobifemoral graft was removed. Two jejunal segments were found to be transected. Therefore segmental resections and end-to-end anastomosis were performed. The patient had an uneventful postoperative course and was discharged on the tenth day after the operation.

Key Words: Aortobifemoral grafting; aortoenteric fistula; peripheral arterial disease

ÖZET Aortoenterik fistüller, primer ya da sekonder olarak sınıflandırılır. Aortobifemoral greftlemeye sekonder gelişen çoklu intestinal yaralanma olgusunu sunmaktayız. Elli altı yaşındaki erkek hasta yorgunluk, bitkinlik, ateş ve bilateral femoral bölgede pürülan akıntı nedeniyle hastanemize kabul edildi. Hastaya 4 ay önce aortobifemoral bypass operasyonu yapılmıştı. Bilgisayarlı tomografiyle intestinal perforasyon ve greftin barsağın içine doğru yer değiştirdiği tespit edildi. Operasyonda enfekte olmuş aortobifemoral greft çıkarıldı. İki jejunum segmentinde yırtılma tespit edildi ve segmental rezeksiyon, uç uca anastomoz yapıldı. Postoperatif takibi olağan seyretti ve hasta onuncu gün taburcu edildi.

Anahtar Kelimeler: Aortobifemoral greftleme; aortoenterik fistül; periferik arter hastalığı

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Aortoenteric fistulas (AEFs) are classified as primary or secondary.¹ Most of the AEFs are secondary and commonly occur in the setting of previous aortic reconstructive procedures with a prosthetic material. Primary AEFs frequently occur between abdominal aortic aneurysms and the gastrointestinal tract, and up to 85% of cases are located in distal duodenum.² The secondary AEF is a life-threatening and relatively rare complication. Mortality rate is reported in a range of 13-70% in the literature for secondary EAF.³

The clinical manifestations of AEFs are usually anemia and melena due to upper gastrointestinal bleeding. The gold standard of care involves resection of the infected graft, debridement of infected periaortic region and reconstruction of aortic flow by an in situ interposition graft or extra ana-

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FIGURE 1: Abdominal computerized tomography showing the transposition of the graft into the intestinal lumen.

tomic bypass.⁴ Surgical treatment is associated with considerable morbidity and mortality (up to 40%).⁵

In this case; we aimed to present a rare complication of Dacron graft used for aortobifemoral bypass.

CASE REPORT

A 56-year-old male patient was admitted to our hospital presenting with tiredness, exhaustion, fever and purulent drainage from bilateral femoral incisions. For arteriosclerosis obliterans, he had undergone an aortobifemoral bypass operation with a 16 mm × 8 mm bifurcated Dacron graft, in our hospital, four months ago. On the day of admission, the patient’s blood pressure was 110/70 mmHg; heart rate was 95 beats/min; and body temperature was 37.6°C. He had no abdominal tenderness or defense. Laboratory findings of white blood cells, hemoglobin, platelets and C-reactive protein were 15000/mm³, 5.2 g/dl, 158000/mm³ and 28.00 mg/dl, respectively. There was purulent drainage from bilateral femoral regions; however, no microorganisms were detected in the wound culture. On the second day of his admission, a sudden bleeding occurred from the left femoral incision. This region was explored under local anesthesia. The graft was seen to be infected, occluded, and had leakage. We abolished the anastomosis and repaired the native vessel with saphenous vein patch.

After then, upper and lower gastrointestinal tract endoscopy and intravenous contrast-enhanced abdominal computerized tomography (CT) we-

re performed. Endoscopic procedures could not determine the source of bleeding. CT revealed intestinal perforations in jejunum (Figure 1A-1B). Dacron graft was observed to be transposed into the intestine. Emergent surgery was scheduled. On exploration, two different jejunal transections were observed. The first defect was 30 cm and the second was 100 cm away from Treitz ligament (Figure 2). Infected aortofemoral graft was removed. Aortic stump was oversewn and the anterior side of the aorta was wrapped with perivascular tissue and omentum. For the jejunal defects, segmental jejunal resections and end-to-end anastomosis were performed. The patient was discharged without complications on the tenth day after the operation.

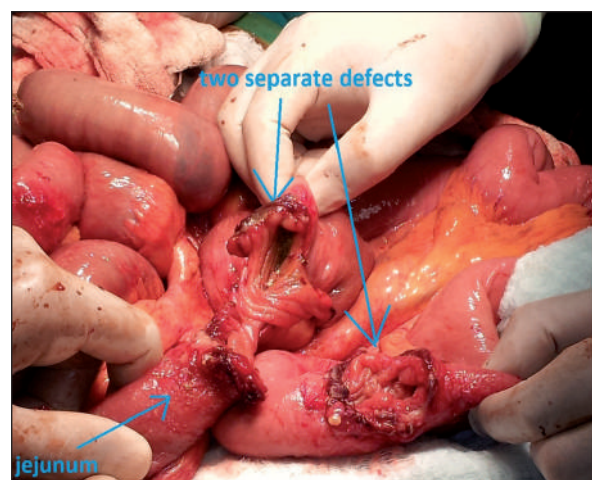


FIGURE 2: Two separate transections were detected in the jejunum.

DISCUSSION

The AEF can occur as a rare late complication of aortofemoral bypass surgery.⁶ In 80% of cases, the AEF involves the duodenum, particularly the third segment due to its relatively fixed form.⁷ The continuous pulsation of the graft against the fixed segment of the duodenum causes pressure necrosis which results in intestinal erosion. In our case, there was no AEF, but two jejunal transections were detected due to the graft's direct mechanical erosion of the jejunal wall.

The characteristic symptom of AEF is hemorrhage into the upper gastrointestinal tract which is called as "Herald bleeding". Kim et al. reported that Herald bleeding occurred in 60% of their patients.⁸ Moreover, they reported that the time between the initial bleeding and the massive gastrointestinal hemorrhage ranged from 1 to 48 hours. In our case, Herald bleeding had started ten days before the patient admitted to our hospital with purulent drainage from bilateral femoral incisions; with accompanying fever and anemia.

Secondary AEF that needs emergency operation is a complication in a range of 14–70%.⁹ Laparotomy is complicated by the presence of inflammation, intraabdominal adhesion, or hemodynamic instability which leads to high mortality. Therefore, endovascular intervention is more convenient. Endovascular repair has the advantages of

being minimally invasive, providing prompt aneurysm exclusion and immediate control of bleeding in those with hemodynamic instability.¹⁰ Despite these advantages, placement of an endograft in an infected region is a great concern.¹¹ Long-term result of this treatment is unknown. Here in this case, we did not perform endovascular repair as the two separate jejunal transections and occluded-infected graft had to be operated with an open procedure.

Various surgical strategies have been reported for this complication, including in situ aortic graft replacement with a variety of new aortic grafts (autogenous, allograft, new prosthetic and stent grafts), an extra anatomic bypass before excision of the infected aortic graft and in situ aortic graft replacement with omental wrapping.^{9,12} Gülcan et al. reported that were preferred extraanatomic bypass (axillofemoral-femorofemoral) procedures as the surgical approach for the patient having secondary aortoenteric fistula.¹³ In our case, there was blood flow in native vessel. Therefore, only the aortofemoral Dacron graft was removed and no other procedure was performed for blood flow reconstruction. Neither pain nor ischemia was observed in the postoperative period. The patient had an uneventful postoperative course and was discharged on the tenth day after the operation.

Conflict of Interest

Authors declared no conflict of interest or financial support.

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