

# Misplacement of One Limb of an Aortobifemoral Prosthesis thorough the Right Colon

F Di Cesare, G Pogany, C Benzoni, B Benini, V Buffa, G Rabitti

## Citation

F Di Cesare, G Pogany, C Benzoni, B Benini, V Buffa, G Rabitti. *Misplacement of One Limb of an Aortobifemoral Prosthesis thorough the Right Colon*. The Internet Journal of Surgery. 2004 Volume 7 Number 1.

## Abstract

A 54-year-old woman, who had recently undergone an aortobifemoral bypass at another institution, presented to our attention complaining of lower abdominal pain and septic fever. Review of charts revealed that the patient postoperative course was complicated by a perigraft collection that was treated conservatively. At our institution, an extensive persistent perigraft fluid collection was documented. A virtual colonoscopy demonstrated the right limb of the vascular graft piercing through the right colon. Definitive treatment was achieved by a multistep procedure consisting of segmental resection of the involved bowel, total graft excision and extra anatomic by-pass.

## INTRODUCTION

Aortobifemoral bypass is the generally recommended treatment for extensive atherosclerotic aortoiliac disease <sup>1</sup>. Common complication related to the procedure include occlusion and infection of the prosthesis, aorto-enteric fistula and pseudoaneurysm formation <sup>2</sup>. We present here the first case, to our knowledge, of one limb of an aortobifemoral graft erroneously driven thorough the right colon.

## CASE REPORT

A 54-year-old woman presented to our division of vascular surgery complaining of lower abdominal pain and septic fever. The patient had a recent aortobifemoral bypass, performed at another institution, for an isolated right iliac artery stenosis. The early postoperative course had been uneventful. One month after surgery, however, the patient experienced recurring bouts of high fever. Blood coltures yielded *Ps.Aeruginosa*, *E.Coli* and *Enterococci*. An abdominal CT scan showed an extensive perigraft fluid collection. The patient had been treated conservatively with a targeted antibiotic therapy.

On physical exam, the patient had a distended abdomen, tender to palpation at the lower quadrants with no signs of peritonitis. An abdominal CT scan showed the right limb of the prosthesis close to a thick-walled right colon (fig 1). A CT colonography (virtual colonoscopy) showed that a segment of the graft was actually running thorough the right colon; this finding was confirmed by a conventional

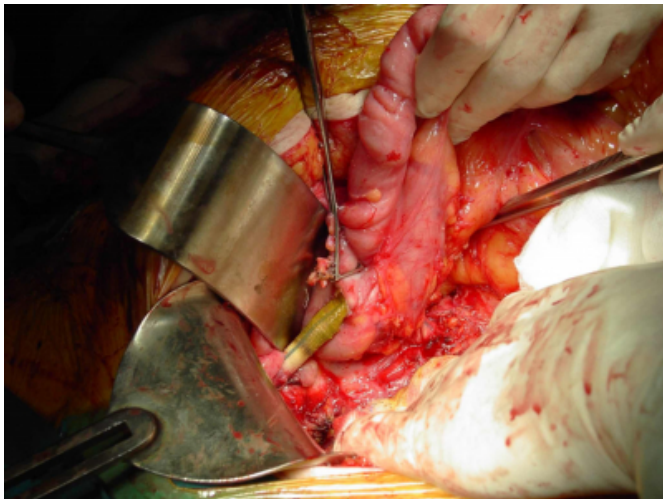
colonoscopy and after consultation with the general surgeon, the patient was scheduled for laparotomy.

**Figure 1**



At surgery, the graft was confirmed to be piercing thorough the right colon (fig.2).

**Figure 2**



The patient underwent an ileocecal resection and total graft excision. Intestinal continuity was primarily restored by a stapled ileo-colic anastomosis. Arteriotomies were closed by homologous safenous vein patch and bilateral trans-femoral iliac endarterectomy performed. Complete remission of fever and symptoms was obtained soon after surgery. Two months after the operation, severe right claudication recurred. A CT angiographic study showed a right common iliac artery occlusion and a patent left iliac artery. After an unsuccessful attempt at PTA stenting, an ilio-femoral crossover bypass was performed after complete resolution of abdominal sepsis and eventually provided satisfactory distal flows and resolution of symptoms. The patient remains well at 14 months follow up.

### DISCUSSION

Aorto-bifemoral by-pass provides excellent results for atherosclerotic aortoiliac disease with a patency rate of 90% at 5 years and a reported postoperative morbidity of 8.3%<sup>1</sup>. Postoperative complications include graft occlusion, pseudoaneurysm formation, graft infection and aortoenteric fistula<sup>2</sup>. In one case, Farkas et al.<sup>3</sup> have reported the transvescical placement of one limb of an aortobifemoral graft. Mortality in case of graft infection has been reported to reach as high as 50%<sup>4</sup>.

In our case, an extensive graft infection had been sustained by the erroneous placement of the right limb of the

aortobifemoral graft through the right colon.

In the first instance, the source of contamination had not been identified and the patient had been offered a conservative treatment. When the patient came to our attention, a repeated abdominal CT scan followed by CT colonography and conventional colonoscopy helped to demonstrate this unique complication.

The patient underwent a segmental resection of the involved bowel and total graft excision as generally recommended<sup>5</sup>. Due to the patient very initial diagnosis of isolated right iliac occlusion, revascularization was attempted by endoarterectomy and PTA stenting without success. Definitive treatment was eventually obtained by a prosthetic ilio-femoral crossover as a separate procedure. An aorto-right iliac by pass was not performed due to severe periaortic adhesions caused by the massive graft infection.

Misplacement of one limb of an aortobifemoral graft through the colon is a rare life-threatening complication that results in severe graft infection. The surgeon should have a high index of suspicion to timely and thoroughly assess this complication. Definitive treatment requires segmental resection of the involved bowel, total graft excision and extra-anatomic bypass.

### CORRESPONDENCE TO

Dr. Carlo Benzoni Via L. Gherzi, 8 00136 Rome, Italy E-mail: cbenzoni@scamilloforlanini.rm.it Tel/Fax: +39-06-35496871

### References

1. De Vries SO, Hunink MGM. Results of aortic bifurcation grafts for aortoiliac occlusive disease: a meta-analysis. *J Vasc Surg* 1998;26:558-569
2. McCann RL, Schwartz LB, Georgide GS. Management of abdominal aortic graft complications. *Ann Surg* 1993;217:729-34
3. Farkas P, Ludecke G, Akinturk H, Weidner W. Transvescical placement of one limb of an aortobifemoral bypass graft as a complication of aortic bypass surgery. *Urologia Internationalis* 2001; 66:227-8
4. O'Brien T, Collin J. Prosthetic vascular graft infection. *Br J Surg* 1992;79:1262-7
5. Quinones-Baldrich WJ, Hernandez JJ, Moore WS. Long term results following surgical management of aortic graft infection. *Arch Surg* 1991; 126:507-11

**Author Information**

**Fabio Di Cesare, M.D.**

Department of Vascular Surgery, S.Camillo-Forlanini Hospital

**Gabriele Pogany, M.D.**

Department of Vascular Surgery, S.Camillo-Forlanini Hospital

**Carlo Benzoni, M.D.**

Department of General and Emergency Surgery, S.Camillo-Forlanini Hospital

**Bruno Benini, M.D.**

Department of General and Emergency Surgery, S.Camillo-Forlanini Hospital

**Vitaliano Buffa, M.D.**

Department of Radiology, S.Camillo-Forlanini Hospital

**Giorgio Rabitti, M.D.**

Department of Vascular Surgery, S.Camillo-Forlanini Hospital