A 64-year-old female patient with aortitis syndrome presented with progressive intermittent claudication for 6 months. Her medical history was notable for living-donor liver transplantation for primary biliary cirrhosis 4-years prior and chronic immunosuppressive therapy. Evaluation included normal laboratory examination, and contrast-enhanced computed tomography angiography which demonstrated severely calcified descending aorta with high-grade stenosis below the diaphragm. The patient was treated by axillobifemoral bypass using an 8-mm ringed expanded polytetrafluoroethylene graft under general anesthesia. Medical management included decreased preoperative doses of immunosuppressants and predonisolone, which were resumed after the operation, and chronic anticoagulation. There were no postoperative complications.

Keywords: axillobifemoral bypass, aortitis syndrome, living-donor liver transplant

Introduction

Axillo-femoral bypass is currently reserved for treatment of severe aortoiliac occlusive disease and is one of the most common strategies to treat patients with aortic graft infections. Its use in patients with advanced aortitis has not been well described. Axillo-femoral reconstruction offers an alternative to aortic-based reconstruction in patients who are considered high risk or who have hostile anatomy and are not candidates for less invasive endovascular options. We present a patient who presented with intermittent claudication from diffuse aortitis following living-donor liver transplantation and was successfully treated by axillobifemoral bypass.
An axillobifemoral bypass was performed using an 8-mm ringed expanded polytetrafluoroethylene graft under general anesthesia. The patient was treated with intravenous anticoagulation perioperatively to prevent graft occlusion, and was started on long-term anticoagulation with warfarin. Immunosuppressants and prednisolone were re-started orally next day.

A postoperative CTA revealed widely patent graft (Fig. 2B) with interval occlusion of stenotic aorta. Postoperative ankle branchial indexes were 0.71 in the right side and 0.61 in the left, respectively. There were no postoperative complications and the patient was discharge without intermittent claudication postoperative day nine. Follow-up at 3-years revealed widely patent graft and no recurrent symptoms.

**Discussion**

This report illustrates an unusual case of aortitis syndrome with burnout stenosis in a liver transplant patient. Progressive aortitis syndrome with atypical aortic coarctation and severely calcified lesion is a rare presentation, and to our knowledge has not been described in patients with PBC who underwent living-donor transplant.

Aortitis is the pathological term that reflects an inflammation of the aortic wall, which can be infectious and noninfectious. The most common causes of noninfectious aortitis are the large-vessel vasculitides, including giant cell and Takayasu aortitis. Although the pathogenesis of aortitis remains unclear, prior reports indicate an association with specific human leukocyte antigen-like antigens.

1) PBC is an autoimmune liver disease. Autoimmune diseases like Raynaud syndrome or Sjogren syndrome occur more frequently in patients with PBC. Moreover, a recent meta-analysis suggested that specific human leukocyte antigens are risk factors for PBC.

2) It is possible that both the aortitis and PBC share similar pathophysiology in this patient.

In Japan, patient survival rates after living-donor liver transplantation are 77% and 73%, at 5- and 10-years, respectively. Because of improved longevity, these patients are subjected to other concomitant cardiovascular diseases such as hypertension, diabetes mellitus or hyperlipidemia.

3) Compared to age- and gender-matched controls, liver transplant patients have a higher rates of cardiovascular death and lower extremity ischemic symptoms.

Our patient illustrates fast progression of lower extremity ischemia, which required surgical revascularization to prevent limb loss or death.

The most choice of axillobifemoral reconstruction was made because of the hostile anatomy and severely calcified lesions, which were not considered suitable for endovascular treatment. Axillobifemoral bypass has been reserved for...
In addition, we recommended chronic anticoagulation to improve long-term graft patency and venous thromboembolic complications, which occur at higher rates in liver transplant patient.\(^6,7\)

### Disclosure Statement

Naoto Fukunaga and co-workers have no conflict of interest.

### Author Contributions

Study conception: NF, Data collection: NF, Analysis: NF, Investigation: NF, Writing: NF, Funding acquisition: None, Critical review and revision: all authors, Final approval of the article: all authors, Accountability for all aspects of the work: all authors.

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