CASE REPORT

A case of TEVAR for acute aortic dissection after MICS AVR and retroperitoneal tumor resection

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Abstract

If multiple treatments are performed within a short time, when something occurs, it is difficult to identify its cause. Here, we present a case of thoracic endovascular aortic repair (TEVAR) for acute aortic dissection (AAD) after multiple treatments. A 76-year-old woman underwent minimally invasive aortic valve replacement (MICS-AVR) for severe AS. Five days post-operatively, she complained of back pain, and computed tomography (CT) scan revealed bleeding in the tumor and tumor growth. Although conservative treatment was started immediately, her back pain persisted; therefore, we performed TEVAR, and the post-operative course was uneventful.

INTRODUCTION

Multiple treatments within a short period of time are needed if various diseases occur simultaneously. When a new disease occurs after short-term treatment, it is difficult to identify the cause of the new disease, including iatrogenic disease. Here, we present a case of post-multiple-treatment acute aortic dissection (AAD).
and follow-up CT revealed slight growth of the ULP. Thus, we decided to perform thoracic endovascular aortic repair (TEVAR) using Valiant (Medtronic, Minneapolis, USA). Before the TEVAR procedure, we performed extra-anatomical bypass from the left common carotid artery to the LSA using PROPATEN (Gore, USA). The Valiant was deployed from Zone 2 to just above the celiac artery (Fig. 3). The post-operative course was uneventful, and the patient was discharged without any complications. One year after discharge, CT showed that the aorta was remodeled almost as before (Fig. 4).

**DISCUSSION**

We experienced a Type B AAD in a patient who had received several treatments. In this case, MICS-AVR with right femoral arterial cannulation, TEA and subsequent resection of the retroperitoneal tumor were performed within a short time, and each procedure seemed to have the potential to causing iatrogenic acute aortic dissection (IAAD). IAAD due to cardiovascular treatment or examination has an incidence rate of 0.06-5.8% [1–4]. Cardiovascular surgery is one of the causes of IADDS. Ram et al. reported that femoral artery cannulation during cardiac surgery was a significant risk factor of IADD [1]. Williams et al. had the same opinion after analyzing the STS data [2]. Angeles et al. reported a rare case of aortic dissection after para-aortic lymphadenectomy. They concluded that aortic dissection should be considered as a potential complication after para-aortic lymphadenectomy [6]. In our case, retroperitoneal tumor resection and left nephrectomy were performed, and the surgical site was close to the aorta; however, para-aortic lymphadenectomy was not performed.

In summary, in this case, the relationship between AAD and the three different procedures was unclear; therefore, the potential of IAAD seemed to be low.

Although there are no reports of IAAD due to TAE for the lumbar artery, endovascular operation using a catheter, in particular coronary angiography and transcatheter valve replacement, is one of the causes of IAADD [1]. Sasaki et al. reported a case of abdominal aortic dissection during transfemoral angiography due to left renal hematuria [5]. Catheter operation of the abdominal aorta seems to also be capable of causing aortic dissection in rare cases.

**CONFLICT OF INTEREST STATEMENT**

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