

The Progression of Traumatic Stanford Type A Aortic Dissection

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Abstract

An 85-year-old woman was diagnosed with traumatic ascending aortic dissection, right clavicle and left first rib fracture, and abdominal contusions after a vehicle accident. After admission, the aortic dissection progressed, and emergent surgery was performed. Although the risk of hemorrhagic complications needs to be evaluated, prompt aortic repair is required

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Key clinical message

Cardiopulmonary bypass for trauma patients carries the risk of bleeding from injured organs, while traumatic aortic dissection can progress rapidly. It is sometimes difficult to determine the optimal time for aortic repair in trauma patients.

Key words

Traumatic aortic dissection, Aortic replacement

Abstract

An 85-year-old woman was diagnosed with traumatic ascending aortic dissection, right clavicle and left first rib fracture, and abdominal contusions after a vehicle accident. After admission, the aortic dissection progressed, and emergent surgery was performed. Although the risk of hemorrhagic complications needs to be evaluated, prompt aortic repair is required.

CASE

An 85-year-old woman was admitted to our hospital with a high-energy motor vehicle trauma. The computed tomography (CT) imaging showed ascending aortic dissection (DeBakey Type II), right clavicle fracture, and left first rib fracture. (Figure 1) The abdomen was bruised, and seatbelt trauma was suspected. To reduce the risk of hemorrhagic complication with use of cardiopulmonary bypass, the patient was placed on strict

blood pressure control and scheduled for aortic replacement in a few days. On the second day after admission, the patient became delirious, inducing a progression of dissection from the ascending to the descending aorta. (Figure 2) An emergent ascending aortic replacement was performed. (Figure 3) The patient was transferred for further rehabilitation on a postoperative day 33.

Traumatic aortic dissection by blunt trauma is rare, and it is often complicated with other hemorrhagic organ injuries. Since the use of cardiopulmonary bypass can exacerbate hemorrhagic complications, standby aortic repair for traumatic Type A dissection under strict blood pressure control can be a therapeutic option.¹ However, conservative treatment has a risk of progression of the dissection, as in this case, and atelectasis, delirium, and deep venous thrombosis formation. Ito et al. have reported successful emergent aortic repair for traumatic aortic dissection with sternum fracture.² Although the risk of hemorrhagic complications must be evaluated, prompt aortic repair is required for traumatic ascending aortic dissection.

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CONFLICT OF INTEREST

None

ETHICS STATEMENT

None

WRITTEN CONSENT FROM THE PATIENT

We have obtained the consent of the patient for publication.

DETAILED AUTHOR'S CONTRIBUTION

HN, HF, SY: cared for the patient. HN: got the patient consent form, prepared the clinical picture, and wrote the report. HF, and SY: read and approved the final version of the report.

DATA AVAILABILITY STATEMENT

None

REFERENCE

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