






# Treatment of Stanford Type A dissection with E-vita Open stent graft, a life-saving surgery

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**Introduction:** Aortic dissection is a high mortality rate disease with incidence of 2,5-3,5/100000 people per year<sup>1,2</sup>. Primary manifestation of aortic dissection is sudden and persistent chest and back pain. 1/3-1/2 aortic dissection with neurological symptoms have no chest pain. Without surgical intervention, dissection mortality at 3 days after onset of symptoms is greater than 50%<sup>3</sup>.

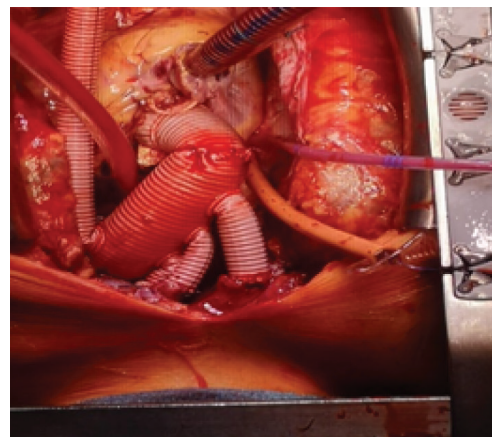
**Case report:** 58-year-old female previously healthy, initially presented with cerebrovascular insult and right sided hemiparesis. On admission, patient was unconscious, without verbal contact, anisocoria was presented. Head Computed tomography (CT) scan did not show signs of ischemia, hemorrhage, or tumor. CT angiography showed dissection of left internal carotid artery and verified diagnosis of acute aortic dissection Stanford type A with retrograde intramural hematoma and large pericardial effusion (**Figure 1**). Due to threatening tamponade, pericardiocentesis was performed, and guide wire was placed in the true lumen through femoral artery. Patient was immediately transferred to the operating room. The replacement of the root and ascending aorta graph with reconstruction of coronary arteries was performed (sec Bentall). Aortic arch was replaced with reimplantation of supra-aortic branches and implantation of stent graft in thoracic aorta (Evita Open Neo) (**Figure 2**). Circulatory arrest lasted 36 minutes, operation was finished without complications. She was extubated on first postoperative day, with significant neurological improvement fourth day. Control CT aortography showed proper flow through graft, coronary arteries, supra-aortic branches, with no signs of paravalvular endoleak or pseudoaneurysm. Head CT scan showed hypodense areas in right hemisphere in terms of acute embolic ischemia. Echocardiography showed



**FIGURE 1.** CT angiography image shows dissection of the ascending aorta and intramural hematoma.

good function of mechanical aortic valve (mean pressure gradient 10 mmHg, aortic valve area velocity time integral 2,2 cm<sup>2</sup>), without regurgitation and normal ejection fraction of the left ventricle. Intensified physical therapy led to a complete neurological recovery. Patient was discharged nineteenth postoperative day in good condition.

**Conclusion:** Considering the atypical manifestation of aortic dissection in forms of neurological symptoms, such patients represent a demanding challenge in establishing the diagnosis as well as in its prompt treatment.



**FIGURE 2.** Intraoperative image of replaced aortic arch with reimplantation of supra-aortic branches and implantation of a stent graft in the thoracic aorta (Evita Open Neo 26/24).

## LITERATURE

1. Melvinsdottir IH, Lund SH, Agnarsson BA, Sigvaldason K, Gudbjartsson T, Geirsson A. The incidence and mortality of acute thoracic aortic dissection: results from a whole nation study. *Eur J Cardiothorac Surg.* 2016 Dec;50(6):1111-1117. <https://doi.org/10.1093/ejcts/ezw235>
2. Clouse WD, Hallett JW Jr, Schaff HV, Spittell PC, Rowland CM, Ilstrup DM, Melton LJ 3rd. Acute aortic dissection: population-based incidence compared with degenerative aortic aneurysm rupture. *Mayo Clin Proc.* 2004 Feb;79(2):176-80. <https://doi.org/10.4065/79.2.176>
3. Coady MA, Rizzo JA, Goldstein LJ, Elefteriades JA. Natural history, pathogenesis, and etiology of thoracic aortic aneurysms and dissections. *Cardiol Clin.* 1999 Nov;17(4):615-35. [https://doi.org/10.1016/S0733-8651\(05\)70105-3](https://doi.org/10.1016/S0733-8651(05)70105-3)

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