Rare Case of Vaginal Delivery in Giant Aortic Aneurysm

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Abstract
A 33-year-old woman underwent successful vaginal delivery despite previously unsuspected 8-cm ascending and 6-cm descending aortic aneurysms. These were repaired immediately after delivery.

Key Words
Aortic aneurysm • Vaginal delivery • Aortic dissection

On examination, there were no signs of genetic disorders such as Marfan syndrome, or Ehlers-Danlos syndrome. On echocardiography an aneurysm of the ascending aorta was found, with severe aortic regurgitation. The aortic valve was tricuspid. On computed tomography (CT) scan, the aneurysms of ascending and descending aorta were identified, with maximum size of the ascending aorta of 81 mm and maximum size of the descending aorta of 61 mm. There were no signs of aortic dissection (Figure 1).

The patient underwent a Bentall-De Bono procedure with the Kouchoukos modification with hemiarch reconstruction. Histology of aorta showed cystic medial degeneration with pseudocyst formation in the media, accompanied by extensive loss of elastic lamina. On control CT before the second stage of operation which was performed in 6 months time, enlargement of descending aorta and aortic dissection were found (Figure 2). The dissection of the descending aorta developed after Stage 1 of the operation and there were no signs of dissection on initial scans. The size of the aorta enlarged dramatically from 61 mm to 67 mm. Endovascular treatment of the descending aorta with Valliant Thoracic Captiva stent graft was performed. The stent graft did not cover...
any of the great vessels. On control CT performed 6 months after the procedure there were no signs of deterioration (Figure 3).

This is a unique case of vaginal delivery in a woman with giant aortic aneurysm that was not complicated by dissection during delivery. It is well known that aortic aneurysms in young patients are usually associated with connective tissue disorders such as Marfan syndrome, or bicuspid aortic valve. We presume that aortic dissection in this patient was part of the natural history of non-syndromic familial thoracic aortic aneurysm. In the 2014 European Society of Cardiology Guidelines on the diagnosis and treatment of aortic diseases, a new section on non-syndromic familial thoracic aortic aneurysm and dissection was included [2]. Numerous etiologic mutations have been identified. Routine echocardiography is not recommended...
for all pregnant women without previous cardiac medical history. That is most likely the reason why in this patient the aortic enlargement was undetected due to lack of family history of aortic disease.

Conflict of Interest

The authors have no conflict of interest relevant to this publication.

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References


Cite this article as: Luneva E, Samokhvalova M, Pahhomov A, Mitrofanova L, Malev E, Uspenskiy V. Rare Case of Vaginal Delivery in Giant Aortic Aneurysm. AORTA (Stamford). 2015;3(3):118-120. DOI: http://dx.doi.org/10.12945/j.aorta.2015.14.070

Figure 3. After Stage 2, a CT image shows a well-positioned stent-graft in the descending aorta.