CONCLUSION

Patients with aortic coarctation can require multiple surgical procedures. Lifelong surveillance is mandatory during long-term follow-up. Recurrence of coarctation or pseudoaneurysmal evolution, particularly when associated with hypoplastic aortic arch, requires a definitive operation. A careful planning should be tailored to the single patient according to clinical and imaging features. Although multiple technical options can be adopted, conventional open redo surgery still represents an effective, durable and less expansive option.

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Treatment solution by reader

Endovascular treatment of aortic isthmus pseudoaneurysm involving a right aberrant subclavian artery long after multiple coarctation repairs following cervical debranching

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Transfer of left carotid and both subclavian arteries to the right carotid artery followed by TEVAR seemed less invasive than a re-do surgery with circulatory arrest for the particular patient [1]. A temporary bypass between the right and left external carotid arteries provides excellent cerebral protection during debranching procedure [2, 3].

The operation can be performed with regional or general anaesthesia. Bilateral common, internal and external carotid arteries are exposed through cervical incisions. The right and left subclavian arteries are dissected with supraclavicular incisions. A Y-graft is created with 8-mm ringed PTFE grafts for the debranching of the left carotid and left subclavian arteries and passed through tunnels for their destinations. Following heparinization the right subclavian artery is ligated proximal to the vertebral artery and a separate 8-mm ringed PTFE graft is anastomosed end to end to the left subclavian artery. A crossover bypass is performed between the external carotid arteries with a 6-mm PTFE graft. The right carotid artery is clamped and the right subclavian artery debranching graft is anastomosed end to side to the right lateral surface of the right common carotid artery. The proximal end of the Y-graft is anastomosed end to side to the left lateral surface of the right common carotid artery. The clamps on the right carotid artery are removed. The left carotid artery is ligated and the short leg of the Y-graft is anastomosed end to end to the left common carotid artery. At that stage the cross-bypass between the external carotid arteries is no more needed and simply removed. The left subclavian artery is ligated proximal to the vertebral artery and the long leg of the Y-graft is anastomosed end to end to the left subclavian artery. Then, a stent graft deployed through the femoral access, or a temporary 10-mm graft anastomosed to the abdominal aorta [4] and placed beyond the right carotid artery, successfully excludes the pseudoaneurysm.

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References