

Unique carotid-vertebral occlusive disease in a patient admitted for cardiac surgery

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Abstract

We report the case of a 62-year-old male patient, admitted for aortic valve replacement. Bilateral common carotid artery occlusion and bilateral internal carotid artery occlusion have been reported, as well as right vertebral artery occlusion. Aortic valve replacement was performed in the standard fashion using the cardiopulmonary bypass. No neurological deficit was apparent on emergence from anesthesia. Keywords: bilateral carotid occlusion, the vertebral artery occlusion, cardiac surgery

A 62-year-old male patient was admitted to undergo aortic valve replacement surgery for severe aortic stenosis. As part of preoperative preparation, carotid duplex ultrasonography (CDU) showed the presence of bilateral common carotid artery occlusion (BCCAO) and bilateral internal carotid artery occlusion (BICAO). A computed tomography (CT) angiography showed occlusion of the right common carotid artery (CCA) (Figures 1,2) and the right internal carotid artery (ICA) at the origin with poor retrograde filling of C7, C6, and C5 segment (Figure 2). Also, there were occlusions of the left CCA (Figures 1,2) and the left ICA at the origin with poor retrograde filling of C7, C6, and C5 segment (Figure 2). The external carotid arteries were filled by collaterals (Figure 2). The right vertebral artery (VA) was occluded at its origin (Figures 1,2), with retrograde filling up to the mid-V2 segment. There was no significant stenosis in the left VA (Figures 1,2). The Circle of Willis was normal, unchanged. Endocranial CT showed the existence of hypodense changes in white mass, primarily of chronic micro-ischemic genesis. BCCAO associated with BICAO and unilateral VA occlusion is extremely rare. In their case report, Lai et al presented, after reviewing the literature, 7 more previously described cases of patients with BCCAO.¹ None of these cases had associated BICAO and unilateral VA occlusion. The unique nature of CDU and CT angiography findings in our patient, designated him a high-risk patient for developing a perioperative stroke. Aortic valve replacement was performed in the standard fashion using the cardiopulmonary bypass. No neurological deficit was apparent on emergence from anesthesia, and the patient was extubated after 8 hours. After 10 days he was discharged in good overall condition.

Reference

1. Lai SL, Chen YC, Weng HH, et al. Bilateral common carotid artery occlusion—a case report and literature review. *J Neurol Sci* 2005;238(1-2):101-4.

Conflict of Interest: The authors declare that there are no conflict of interests.

Ethics statement: Informed consent was obtained in writing form from the patient.



