Human immunodeficiency virus-associated aneurysm

Human immunodeficiency virus-associated vasculopathy is a rare but recognized disease entity. Patients with HIV/AIDS who have aneurysmal and stenotic vascular disease may benefit from earlier surveillance with the onset of neurological symptoms. The roles of medical, open surgical, and endovascular therapy in this unique entity will be further defined as the pathological basis of the disease is better understood [1)].

Classification

The cerebral aneurysms in HIV/AIDS patients can be generally categorized into two groups: the mycotic aneurysms from bacterial or fungal infections and the HIV-associated aneurysms as a distinct entity. To plan appropriate interventions, a high degree of clinical suspicion must be exercised to promptly recognize the mycotic nature of many HIV-related aneurysms [2)]

Case reports

A 51-yr-old woman with newly diagnosed acquired immunodeficiency syndrome presented to the hospital with meningitis and experienced an acute neurological decline while admitted. Neuroimaging revealed a fusiform left a2-Anterior inferior cerebellar artery aneurysm, thought to be a infectious aneurysm with diffuse subarachnoid and intraventricular hemorrhage (Hunt-Hess Grade-IV). The occipital artery was harvested as an alternative donor in the myocutaneous flap using a hockey-stick incision. An extended retrosigmoid approach exposed the infectious aneurysm. After aneurysm excision, an a2-AICA-a2-AICA end-to-end reanastomosis was performed in between and deep to the vestibulocochlear nerves superiorly and the glossopharyngeal nerve inferiorly. Indocyanine green videoangiography and postoperative angiogram confirmed bypass patency. Postoperatively, she developed epidural and subdural hematomas due to human immunodeficiency virus-associated coagulopathy and/or increased aspirin sensitivity, requiring reoperation. The patient made a complete recovery at late follow-up. AICA reanastomosis is an elegant intracranial-intracranial bypass for treating distal AICA aneurysms. This is the first report of AICA reanastomosis in the proximal a2-AICA (lateral pontine) segment. This technique has been reported in the literature for distally located aneurysms (a3-AICA). Microanastomosis for more medial AICA aneurysms must be performed deep to the lower cranial nerves. OA to a3-AICA bypass is an alternative in cases where primary reanastomosis is not technically feasible [3)].

A 7-year-old male child known to have a congenitally acquired HIV infection presenting with a ruptured left distal internal carotid artery fusiform aneurysm that was diagnosed on MRI scans 6 months prior to his presentation. He underwent craniotomy and successful aneurysm reconstruction. He had uncomplicated postoperative course and experienced a good recovery. This case is among the few reported pediatric cases of HIV-associated cerebral arteriopathy to undergo surgery. We also

reviewed the relevant literature of this rare condition. [4].

Two cases of fusiform cerebral aneurysms in human immunodeficiency virus (HIV) positive children are presented. To our knowledge, only 9 patients with this association have been reported. One of our patients represents the first report of a patient with an aneurysm associated with varicella-zoster vasculitis. One patient presented with a subarachnoid hemorrhage, Hunt-Hess grade IV, and posed difficult surgical management. The other patient suffered a cerebral infarct with a resulting hemiparesis. The first patient had a ventriculostomy placed, initially improved, and subsequently died from rebleeding. The second patient improved with medical management. AIDS arteriopathy, and specifically fusiform aneurysms, are being increasingly reported. The various presentations of this surgically challenging entity in light of other AIDS-related syndromes pose difficult management decisions. On occasion, the intracranial aneurysm may be the initial form of presentation as was present in our first patient [5].

1)
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