Paraclinoid Internal Carotid Artery Aneurysm Case Reports

Accidental anterior skull base defects associated with surgery are difficult to treat. There are several methods for the repair, yet postoperative rhinorrhea can occur despite the closure. A 56-year-old female patient was admitted for the treatment of a paraclinoid internal carotid artery aneurysm. The surgery included removal of the anterior clinoid process, unroofing the optic canal, decompressing the optic nerve, and clipping the aneurysm. During the surgery, the planum sphenoidale was accidentally drilled and the nasal cavity exposed. The dural defect was repaired using a U-flap technique. No postoperative cerebrospinal fluid rhinorrhea occurred in the patient, and she was discharged on postoperative day 3. On follow-up examination the patient did not have evidence of CSF leakage [1].

A 35-year-old woman presenting with clinical manifestations and tomographic findings compatible with SAH, due to rupture of a paraclinoid aneurysm in the left ICA. We had to treat the ruptured aneurysm and the concurrent dissection of both internal carotid arteries. The patient underwent high flow extracranial-intracranial (EC-IC) arterial graft bypass and subsequent trapping of the left ICA. Complete aneurysm exclusion from the cerebral circulation was achieved and the possible embolic events from the left side were prevented. The concomitant right internal CAD was treated conservatively with anticoagulants and antiplatelets.

Dealing only with the ruptured paraclinoid aneurysm, without taking care of the underlying cerebral ischemia due to concomitant extracranial ICA dissection could be an insufficient approach for treatment. In the presented case of a giant ruptured paraclinoid aneurysm and coexistence of severe bilateral ICA dissecting stenosis, trapping with matching the bypass flow, was the proper solution for managing simultaneously with the aneurysm and the cerebral ischemia from the left side. Anticoagulants and antiplatelets were safely applied to treat the right internal CAD [2].

A 56-year-old right-handed woman was successfully treated by coil embolization for a large unruptured paraclinoid aneurysm of the left internal carotid artery. Though she was discharged on day 3 after the intervention with uneventful clinical course, she was rehospitalised for continuous headache and right upper limb weakness 2 weeks after the treatment. Subsequent progression of cognitive dysfunction and right hemiparesis were observed. Repeated MRI revealed diffuse leucoencephalopathy within the ipsilateral brain hemisphere. Clinical course, serological examination, and radiological findings were consistent with localised hypocomplemental vasculitis caused by delayed hypersensitivity reaction. Immunosuppressive treatments using prednisolone successfully improved her symptoms. After a washout period for immunosuppressant, skin reaction test was performed and revealed polyglycolic-polylactic acid, coating material of the coil, positive for delayed allergic reaction. Given the increased frequency of endovascular treatment for unruptured aneurysms, even such a rare complication should be recognised and treated properly to avoid neurological sequelae [3].

A 54-year-old woman who was admitted with a Hunt/Hess grade IV, Fisher grade III subarachnoid

hemorrhage and multiple intracranial aneurysms. She was treated with coiling of the largest paraclinoid aneurysm and placement of a flow diverting pipeline embolization device that covered all internal carotid artery (ICA) aneurysms. A follow-up angiogram at 6 months showed remodeling of the ICA with complete obliteration of all treated aneurysms. A distant, untreated, right frontal M2 aneurysm regressed spontaneously, after the flow was diverted away from it with the stent. The literature is reviewed, and potential pathophysiological mechanisms leading to aneurysm regression are discussed [4].

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