

Acute EC-IC Bypass for Ruptured ICA Blood Blister-Like Aneurysms (BBAs)

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Abstract

Internal carotid artery (ICA) blood blister-like aneurysms (BBAs) have fragile aneurysm walls, poorly defined necks and located at the supraclinoid ICA with remarkable tendency of preoperative rebreeding, premature rupture during surgery and enlargement of aneurysmal dome in the acute stage, so surgical treatment is extremely challenging. The authors describe the clinical course of patients with subarachnoid hemorrhage (SAH) caused by ruptured BBAs and emphasize the usefulness of parent artery occlusion (PAO) with or without extra cranial-intracranial (EC-IC) bypass in the acute SAH period. Methods. We analyzed the clinical records of 18 consecutive patients (8 male and 8 female) with a mean age of 56 years (range 29-88 years) treated between January 2005 and December 2016.

Results

All 18 patients presented with SAHs corresponding to World Federation of Neurosurgical Societies Grades I, II, III, IV, and V in 6, 3, 3, 2 and 4 patients, respectively. All surgery was performed in the acute stage but in 4 of 18 cases we cannot identify BBAs immediately after onset. 3 of the 18 experienced preoperative rebreeding, and repeated angiography revealed remarkable enlargement of the aneurysm. 8 patients underwent PAO with bypass, 6 without bypass and 4 underwent interventional aneurysmal coil embolization. The outcome was excellent and postoperative angiography demonstrated complete obliteration of the BBA in 8 patients, good in 6 and dead in 6. Intraoperative premature bleeding from the BBAs occurred in 2 of 9 patients who underwent surgical trapping.

Conclusions

Ruptured BBAs were successfully treated with PAO during the acute SAH period.

References

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