Endovascular Treatment of Superior Hypophyseal Artery Aneurysms: Immediate and Long-Term Results

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Purpose
To present the angiographic and clinical results of the GDC embolization for superior hypophyseal aneurysms.

Materials & Methods
From September 1991 through September 2000, 30 superior hypophyseal artery aneurysms in 30 patients were treated by endovascular method. Retrospective review of 28/30 (M: F = 7:21, mean age; 57 years old, ranging from 8 to 73 years old) treated with GDC was performed. Two cases treated with balloons were excluded from this study. Patient presentation included SAH in 7(25%); mass effect in 4(14%); headache 4(14%); incidental finding in 9(33%); and others in 4(14%). Fourteen aneurysms (50%) had a broad neck. Surgical clipping was attempted before endovascular coiling for 6 aneurysms. Balloon remodeling technique was used for 3 aneurysms. One aneurysm was giant (> 25 mm), 13 were large (10–25 mm), and 14 were small (< 10 mm).

Results
More than 90% occlusion was obtained in 24 aneurysms (86%); 1 giant, 11 large, and 12 small aneurysms. Three aneurysms revealed less than 90% occlusion. One case (3%) could not be coiled due to wide neck. One neurologic complication due to hemorrhagic infarction after thrombolysis occurred which has improved on 5-year follow-up. Twenty-three of the 27 successfully coiled patients had angiographic and clinical follow-up (mean follow-up period: 17 months range from 1 to 62 months). Nineteen of the 23 cases did not show recanalization on follow-up angiography (83%); 5 showed progressive thrombosis of the residual sac and 14 revealed same occlusion as immediate postembolization angiographic results. Four aneurysms recanalized on follow-up angiography; 1 small and 3 large aneurysms. One of these 4 underwent retreatment with GDC, which showed no recanalization on 14-month follow-up angiography. Twenty of the 23 patients showed excellent or good clinical outcome on follow-up. One patient who had progressive deterioration of vision after coiling had new parenchymal and subarachnoid hemorrhage 7 months later and resulted in death. Another 2 patients deteriorated due to worsening of medical condition, unrelated to the procedure.

Conclusion
Endovascular treatment with GDC is the treatment of choice in this group of patients and microsurgery should be reserved for those that could not be coiled.

References