Lateral supraorbital approach case series

From April 2013 to May 2017, a total of 64 patients underwent surgery for parachiasmal meningiomas in the Gangnam Severance Hospital, Dong-A University Hospital, Yonsei University Health System. Among them, tumor resection was performed with the LSO approach for 34 patients and pterional approach for 30 patients. A retrospective analysis was done on tumor characteristics, surgical outcome, approach-related morbidity, and esthetic outcome between the two approaches. Gross total resection was achieved in 33 of 34 patients (97.1%) with the LSO approach. There were no differences in tumor size, origin, consistency, internal carotid artery encasement, cranial nerve adhesion, and optic canal invasion between the two approaches. The most common tumor origin was the tuberculum sellae for both the LSO and pterional approaches. For tumors with preoperative visual compromise, immediate visual outcome improved or remained stable in 76% and 80.9% with the LSO and pterional approaches, respectively. Surgery time, surgical bleeding, hospital length of stay, and esthetic outcome were significantly shorter and superior with the LSO approach. There were no differences in surgical morbidity and brain retraction injury between the two approaches. The LSO approach can provide a safe, rapid, and minimally invasive exposure for parachiasmal meningiomas compared with the pterional approach. Surgeons must consider tumor size, origin, and extent in determining the resectability of the tumor rather than the extent of exposure [1].

2017

A total of 63 patients (aged 41-79 yr, mean 64 yr) with relatively small AcomA aneurysms clipped via the lateral supraorbital approach were retrospectively analyzed among the 105 AcomA aneurysms treated by clipping from 2005 to 2014. Neurological and cognitive functions were examined by several scales, including the modified Rankin Scale (mRS) and Mini-Mental Status Examination. The depressive state was assessed using the Beck Depression Inventory and Hamilton Depression Scale. The state of clipping was assessed 1 yr and then every few years after the operation by 3-dimensional computed tomography angiography.

RESULTS: Complete neck clipping was confirmed in 62 aneurysms (98.4%). Perioperative complications occurred in 5 patients (5/63; mild frontalis muscle weakness in 3, anosmia in 1, and meningitis in 1). The mean clinical follow-up period was 5.2 ± 2.1 yr. No patient showed an mRS score more than 2 and all were completely independent in daily life. The depression scores were significantly improved after surgery. The overall mortality was 0% and overall morbidity (mRS score > 2 or Mini-Mental Status Examination score < 24) was 1.6%. All completely clipped aneurysms did not show any recurrence during the mean follow-up period of 4.9 ± 2.1 yr.

CONCLUSION: Lateral supraorbital keyhole approach to clip relatively small unruptured AcomA aneurysm promises less invasive and durable treatment [2].

Clinical data of 23 patients with grade Ⅰ-Ⅲ ruptured anterior circulation aneurysm via LSO at the Second Hospital of Shandong University from February 2016 to December 2016 were retrospectively analyzed. The clinical data included their clinical manifestations, radiological finding, microsurgical techniques and follow-up results. Results: All patients were diagnosed as anterior circulation aneurysm by preoperative CT angiography (CTA) or Digital Subtraction Angiography (DSA). They all accepted aneurysm clipping via LSO. The operations carried out smoothly, with no operation related

complications. They were followed up for 2 to 12 months, and the Glasgow outcome scales (GOS) were 5 in 18 patients (78.3%), 4 in 2 patients (8.7%), 3 in 2 patients (8.7%), and 1 in 1 patient (4.3%). Conclusion: LSO could provide adequate exposure for the anterior circulation aneurysm, so the clipping could be carried out safely and effectively. LSO is a simple and minimally invasive surgical approach, and when it is used by the skilled master of pterion approach, its advantage could be fully played [3].

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