

MINIMAL INVASIVE SUPRA-ORBITAL INCISION FOR CEREBRAL ANEURYSM CLIPPING : IMPLICATIONS FOR ANESTHESIA MANAGEMENT

**V. De Sloovere, C. De Deyne, J. Wuyts, D. Peuskens, J. Deckers, T. Daenekindt,
F. Weyns, F. Jans, R. Heylen**
**Depts of Neurosurgery and Anesthesia* Ziekenhuis Oost-Limburg
Genk (Belgium)**

Supra-orbital incision offers a minimal invasive surgical approach for cerebral aneurysm surgery and clipping. Since 2004, we introduced this technique for all pts presenting for elective cerebral aneurysm surgery and treated by the same neurosurgeon. In this paper, we want to present a retrospective analysis of this 5-years experience.

Over this 5-years period, 122 pts scheduled for elective cerebral aneurysm surgery underwent craniotomy by supra-orbital incision performed by the same neurosurgeon. In 74 pts, the aneurysm was located on the medial cerebral artery, in 18 pts it was located on the internal carotid artery, whereas in the other 30 pts the communicans anterior was involved. 9 pts presented with multiple aneurysms, in 2 pts multiple aneurysms were clipped in one surgical procedure.

In 119 of 122 pts, the cerebral aneurysm was successfully clipped and peri-operative course was uneventfull. In 2 pts, it seemed impossible to clip the aneurysm due to anatomical characteristics. One pt was treated by endovascular approach, in the other pt a second surgical approach (by supra-orbital incision) did result in successfull clipping of the aneurysm thanks to the use of a differently positioned temporary clip. In 1 pt, intra-operative bleeding occurred during surgical manipulation of the aneurysm, with ensuing brain bulging and a large craniotomy had to be performed.

We noted a significantly shorter mean surgical procedure time compared to standard procedure times for cerebral aneurysm clipping before 2004 (m195min vs m329min). Probably due to this shortened mean surgical time, we observed a significantly shorter time to awakening (m135min vs m285min after ICU admission). 110 of 122 pts were discharged from ICU within 36hrs of admission, and 38 pts were even discharged within the first 12hrs of ICU admission. Mean hospital stay was 6 days, with 9 pts leaving the hospital within 3 days after surgical intervention.

In conclusion, our data confirm all advantages of minimal invasive neurosurgical approach for cerebral aneurysm clipping. The less invasive approach guarantees as well optimal surgical conditions as significantly shortened procedure time and ICU - hospital stay.