2010

2009-2011

In 2010, Michael T. Lawton et. al introduced the Supplementary Spetzler-Martin AVM grading scale specifically to predict surgical outcomes in Ruptured cerebral arteriovenous malformation. The Supplemented Spetzler-Martin grading scale also included rupture status, age of the patient, and nidal architecture (diffuse versus focal). In the 300 patients in Lawton's 2010 study, the supplemental Spetzler-Martin grading scale demonstrated a stronger correlation with surgical outcomes than the initial Spetzler-Martin AVM grading system (ROC 0.78 vs 0.66) [1].

In 2010, the RANO criteria for high-grade gliomas was developed by a consensus of experts to update the original Macdonald criteria and account for challenges to response assessment such as pseudoprogression and pseudoresponse. Subsequent studies have suggested a limited benefit of incorporating T2/FLAIR evaluation on the correlation of PFS with OS. Moreover, some new therapies, particularly immunotherapy and viral therapies, are more likely to induce transient worsening of contrast enhancement that might lead to erroneous determination of radiographic disease progression. As a result, the modified RANO criteria were proposed in 2017 and differed from RANO by use of the post-radiation scan as the baseline scan, omission of FLAIR evaluation, and requirement of a confirmation scan to determine progressive disease. In 2010, FLAIR imaging was added to the RANO criteria and was recommended for the assessment of the nonenhancing component of gliomas [2].

Since 2010, surgical resection of insular gliomas is performed via transopercular approach by the Neurosurgery Clinic, Istanbul Training and Research Hospital, Departments of Neurosurgery, Cerrahpasa Medical Faculty, Istanbul University, Turkey.

Clinical, surgical and follow-up results were analyzed retrospectively.

The majority were low-grade (81.8%) and among them oligodendroglioma was the most common (n = 8). Half of the patients underwent awake craniotomy with cortical electrostimulation and total resection was achieved in 6 patients. Long-term follow-up showed the majority of patients (90.9 %) were completely seizure free. Only one patient showed slight paresis on one upper extremity at the long-term follow-up.

Trans-opercular approach for insular gliomas is safe and maximal resection with minimal neurological deficits is possible. Use of ultrasonic aspirator and neuronavigation make surgery safer. Surgery-related complication is very rare. Future studies should contain larger number of patient and long-term follow-up in order to provide more accurate data [3].

Brain death was defined according to the 2010 American Academy of Neurology guidelines and following 2020 The World Brain Death Project

---

De Ridder et al. published in 2010 a cohort of 12 patients who underwent the so-called “burst stimulation” [4].

World Neurosurgery is a bimonthly peer reviewed medical journal that was established in 1973 as Surgical Neurology before obtaining its current name in 2010. It is published by Elsevier and is the official journal of the World Federation of Neurosurgical Societies.

With the passage of the Affordable Care Act in 2010, healthcare metrics and patient outcomes, especially mortality rates, are increasingly emphasized as integral measures of overall quality of care and hospital reimbursements [5] [6] [7] [8].

In 2010, the O'Kelly-Marotta grading scale was proposed as a method of assessing the degree of angiographic filling and contrast stasis in the setting of intracranial aneurysms treated by endovascular flow diversion. Taking into account the dynamic nature of the contrast stasis, it is designed for use with cerebral angiography to predict aneurysm closure over time [9].

1)
Lawton MT, Kim H, McCulloch CE, Mikhak B, Young WL. A supplementary grading scale for selecting patients with brain arteriovenous malformations for surgery. Neurosurgery. 2010 Apr;66(4):702-13; discussion 713. doi: 10.1227/01.NEU.0000367555.16733.E1. PubMed PMID: 20190666; PubMed Central PMCID: PMC2847513.
2)
Wen PY, Macdonald DR, Reardon DA, Cloughesy TF, Sorensen AG, Galanis E, et al: Updated response assessment criteria for high-grade gliomas: response assessment in neuro-oncology working group. J Clin Oncol 28:1963–1972, 2010
3)
Baran O, Akgun MY, Kemerdere R, Akcil EF, Tanriverdi T. Long-term clinical and seizure outcomes of insular gliomas via trans-opercular approach. Clin Neurol Neurosurg. 2018 Aug 2;173:52-57. doi: 10.1016/j.clineuro.2018.08.001. [Epub ahead of print] PubMed PMID: 30086428.
4)
De Ridder D, Vanneste S, Plazier M, van der Loo E, Menovsky T. Burst spinal cord stimulation: toward paresthesia-free pain suppression. Neurosurgery. 2010 May;66(5):986-90. doi: 10.1227/01.NEU.0000368153.44883.B3. PubMed PMID: 20404705.
5)
Hammers R, Anzalone S, Sinacore J, Origitano TC. Neurosurgical mortality rates: what variables affect mortality within a single institution and within a national database? J Neurosurg. 2010;112(2):257-26.
6)
Spurgeon A, Hiser B, Hafley C, Litofsky NS. Does improving medical record documentation better reflect severity of illness in neurosurgical patients? Neurosurgery. 2011;58:155-163.
7)
Zalatimo O, Ranasinghe M, Harbaugh RE, Iantosca M. Impact of improved documentation on an academic neurosurgical practice. J Neurosurg. 2014;120(3):756-763.
8)
Reyes C, Greenbaum A, Porto C, Russell JC. Implementation of a clinical documentation improvement curriculum improves quality metrics and hospital charges in an Academic Surgery Department. J Am

Coll Surg. 2017;224:301-309.
9)
O'Kelly CJ, Krings T, Fiorella D, Marotta TR. A novel grading scale for the angiographic assessment of intracranial aneurysms treated using flow diverting stents. Interv Neuroradiol. 2010;16:133–137.