

The role of indocyanine green videoangiography (ICGV) in surgery of parasagittal meningiomas

Paolo Ferroli · Francesco Acerbi · Morgan Broggi · Giovanni Broggi

Received: 9 April 2013 / Accepted: 9 April 2013 / Published online: 25 April 2013
© Springer-Verlag Wien 2013

Dear Editor,

We read with great interest the paper entitled “Indocyanine green videoangiography (ICGV)-guided surgery of parasagittal meningiomas occluding the superior sagittal sinus (SSS)” by D’Avella et al. [1]. The authors nicely describe and focus on the opportunities that intraoperative ICG videoangiography offers during surgery of parasagittal meningiomas. We completely agree with them on the role of extradural examination, which has been recently illustrated by Nurshaum et al. [5]. We also agree on the key role of bridging veins that drain normal parenchyma, and the delicate balance between the need for maximizing resection and preserving neurological function. The authors rightly say: “This technique adds useful information to the surgeon’s effort to preserve normal venous vasculature.” However, their ICG-guided decision making process with respect to venous sacrifice is not described in detail. Do they think that bridging veins with flow inversion can be safely sacrificed? In our experience, this was not found to be true, since we observed that a relief of mass effect after tumor debulking can re-establish flow in an anterograde direction and possibly contribute to reducing peritumoral edema due to venous congestion [2]. Thus, the direction of venous flow before the removal of the meningioma cannot be considered the key point. In addition, the problem of venous sacrifice during surgical approaches for parasagittal meningiomas is not exhaustively addressed. We recently contributed in this

field with two papers that describe the use of ICG videoangiography to evaluate the presence of a collateral venous drainage through an ad hoc designed temporary clipping test [3, 4]. This technique was widely discussed in many local and international meetings focused on the issue of parasagittal meningiomas. The authors should be complimented for their contribution in this field, but indeed their paper does not seem to address the real and critical issue of when during a neurosurgical procedure a vein can be sacrificed without clinical consequences.

Conflicts of interest None.

References

1. D’Avella E, Volpin F, Manara R, Scienza R, Della Puppa A (2013) Indocyanine green videoangiography (ICGV)-guided surgery of parasagittal meningiomas occluding the superior sagittal sinus (SSS). *Acta Neurochir* 155:415–420
2. Ferroli P, Acerbi F, Albanese E, Tringali G, Broggi M, Franzini A, Broggi G (2011) Application of intraoperative indocyanine green angiography for CNS tumors: results on the first 100 cases. *Acta Neurochir Suppl* 109:251–257
3. Ferroli P, Acerbi F, Tringali G, Albanese E, Broggi M, Franzini A, Broggi G (2011) Venous sacrifice in neurosurgery: new insights from venous indocyanine green videoangiography. *J Neurosurg* 115(1):18–23
4. Ferroli P, Nakaji P, Acerbi F, Albanese E, Broggi G (2011) Indocyanine green (ICG) temporary clipping test to assess collateral circulation before venous sacrifice. *World Neurosurg* 75(1):122–125
5. Nussbaum ES, Defillo A, Nussbaum L (2012) The use of indocyanine green videoangiography to optimize the dural opening for intracranial parasagittal lesions. *Neurosurgery* 70(1 Suppl Operative):61–64

P. Ferroli · F. Acerbi · M. Broggi (✉) · G. Broggi
Department of Neurosurgery, Fondazione IRCCS
Istituto Neurologico Carlo Besta, Via Celoria 11,
20133 Milano, Italy
e-mail: morganbroggi@hotmail.com