

# Vascular dual intraoperative visualization approach

Novel technique (vascular dual intraoperative visualization approach - vDIVA) enabling visualization of different tumor zones (TZ I-III) on the basis of angiogenic hotspots.

Eyüpoglu et al. investigated glioblastoma patients who underwent 5-ALA fluorescence-guided surgery with simultaneous intraoperative ICG fluorescence angiography. This vDIVA technique revealed hypervascularized areas which were further histologically investigated. Neuropathological assessments revealed tissue areas at the resection margins corresponding to TZ II, and postoperative CD34- and Map2 immunostaining confirmed these angiogenic hotspots to be occupied by glioma cells. Hence, the vascular architecture in this transitional zone could be well differentiated from both primary tumor bulk and healthy brain parenchyma. These data demonstrate that ICG fluorescence angiography improves state-of-the-art glioma surgery techniques and facilitates the future characterization of polyclonal attributes of malignant gliomas <sup>1)</sup>

<sup>1)</sup>

Eyüpoglu IY, Hore N, Fan Z, Buslei R, Merkel A, Buchfelder M, Savaskan NE. Intraoperative vascular DIVA surgery reveals angiogenic hotspots in tumor zones of malignant gliomas. Sci Rep. 2015 Jan 22;5:7958. doi: 10.1038/srep07958. PubMed PMID: 25609379.

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Last update: **2024/06/07 02:49**

