Navigated angiosonography

In a series of 18 skull base tumors (10 meningiomas, 3 craniopharyngiomas, 2 giant pituitary neuroendocrine tumors, 1 posterior fossa epidermoid, 2 dermoid cysts). N-ASG was obtained after craniotomy before resecting each lesion and during tumor removal, after intravenous injection of ultrasound contrast agent.

In all 18 cases, major vessels and their branches were simultaneously identified (both high and low flow) with N-ASG permitting to follow the entire course of each vessel. N-ASG also proved to be useful in highlighting the lesion compared with standard B-mode imaging and showing its perfusion patterns.

N-ASG can be applied to skull base tumor surgery, providing helpful information about the relationship between principal intracranial vessels and tumors. This technique could be of help approaching the tumor and avoiding vascular damages [1].

1)
Prada F, Del Bene M, Casali C, Saladino A, Legnani FG, Perin A, Moiraghi A, Richetta C, Rampini A, Mattei L, Vetrano IG, Fornaro R, Saini M, Martegani A, DiMeco F. Intra-operative navigated angiosonography for skull base tumor surgery. World Neurosurg. 2015 Jul 17. pii: S1878-8750(15)00891-8. doi: 10.1016/j.wneu.2015.07.025. [Epub ahead of print] PubMed PMID: 26193670.