## **Intraoperative Pathology**

Intraoperative histopathology and acquisition of multiple tissue samples in stereotactic biopsy results in a prolonged length of surgery and potentially increased complication rate.

To investigate the clinical benefits of a novel strategy for stereotactic brain tumor biopsies with the assistance of 5-aminolevulinic acid (5-ALA) induced fluorescence.

Patients that received 5-ALA prior to stereotactic biopsy of a suspected brain tumor were included. According to our strategy, the procedure was terminated in the case of strong fluorescence of the biopsy samples. In contrast, intraoperative histology was demanded in the case of vague/no fluorescence. Length of surgery, number of biopsy samples, diagnostic rate, and periprocedural complications were compared between these 2 groups.

Altogether, 79 patients were included, and strong fluorescence was present in 62 cases (79%), vague fluorescence was in 4 cases (5%), and no fluorescence was in 13 cases (16%). The diagnostic rate was comparable in biopsies with strong fluorescence without intraoperative histopathology and cases with vague/no fluorescence with intraoperative histopathology (98% vs 100%; P = 1.000). A significantly shorter length of surgery (41 vs 77 min; P < .001) and reduced average number of biopsy samples (3.6 vs 4.9; P = .011) was found in patients with strong compared to vague/no fluorescence. However, no statically significant difference in periprocedural complications between cases with strong and vague/no fluorescence was found (7% vs 18%; P = .166).

The data demonstrate the clinical benefits of a novel strategy for stereotactic brain tumor biopsies with assistance of 5-ALA. Thus, this biopsy strategy will increase the efficiency of this standard neurosurgical procedure in the future <sup>1)</sup>.

## 1)

Millesi M, Kiesel B, Wöhrer A, Mercea PA, Bissolo M, Roetzer T, Wolfsberger S, Furtner J, Knosp E, Widhalm G. Is Intraoperative Pathology Needed if 5-Aminolevulinic-Acid-Induced Tissue Fluorescence Is Found in Stereotactic Brain Tumor Biopsy? Neurosurgery. 2019 May 2. pii: nyz086. doi: 10.1093/neuros/nyz086. [Epub ahead of print] PubMed PMID: 31049574.

From: https://neurosurgerywiki.com/wiki/ - Neurosurgery Wiki

Permanent link: https://neurosurgerywiki.com/wiki/doku.php?id=intraoperative\_pathology



Last update: 2024/06/07 02:54