

## **WADA TEST, INTRAOPERATIVE HIPPOCAMPAL COOLING AND COGNITIVE OUTCOME AFTER SURGERY**

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**Objectives:** To verify if intraoperative hippocampal cooling (IHC) at temporal lobe epilepsy (TLE) patients with higher postoperative memory risk is helpful for cognitive outcome.

**Method:** 71 TLE patients (mean age  $32.6 \pm 9.42$ ); epileptic focus on the side of speech dominant hemisphere: 58 %.

Patients underwent a comprehensive neuropsychological assessment prior to and one year after epilepsy surgery. The battery included Wechsler memory Scale III and global intelligence stage (Wechsler Adult Intelligence Test). All of them also had the Wada test before the surgery that indicated prospective IHC.

**Results:** Out of 71 patients, 20 passed Wada test successfully, 29 not successfully (but IHC was not indicated), 22 did not pass Wada test successfully and were indicated to IHC.

From 22 patients indicated to IHC, 5 were not tested successfully (persisting inhibition, restlessness, fuzziness); 17 were tested successfully and the extent of resection was modified by the result of testing. The effectiveness of surgery (Engel stage I) was 86 %.

**Conclusion:** At the patients with higher risk of postoperative memory deficit (according to the Wada test), after IHC and modified resection, there was not a statistically relevant decline of memory quotient and effectiveness of surgery therapy was higher in comparison with the group of non-cooled patients. Our experience confirms usefulness of IHC.

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