

Very high frequency oscillations (VHFO)

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Objective: We studied the significance of ictal very HFO (VHFO) faster than 1000-Hz in neocortical epilepsy.

Methods: We included 13 neocortical epilepsy patients who underwent subdural EEG and had at least 1 seizure recorded at a 10-kHz sampling rate, with long-term postoperative follow-up. Presence or absence of VHFO (>1,000Hz), HFO (200–1,000Hz) and seizure onset zone (SOZ), and completeness of resection of these areas were compared with postoperative outcome.

Results: VHFO was recorded in 6 of 7 patients with favorable outcome, whereas VHFO was recorded in only 1 of 6 patients with unfavorable outcome. The presence of VHFO was significantly associated with favorable outcome. VHFO was recorded on limited electrodes, and was resected completely, whereas HFO and/or SOZ were not always resected completely in both favorable and unfavorable outcome groups.

Conclusion: Ictal VHFO may be a more specific marker than HFO or SOZ for identifying the core of epileptogenic zone.