

Recovery cycle of the cerebral neocortex: Preliminary observations in epileptic patients

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The recovery cycle of the amplitude of the potential evoked in the cerebral neocortex by paired electrical stimuli of the underlying white matter was studied in 5 epileptic patients with intracerebral electrodes chronically implanted stereotactically. A reproducible pattern was apparent for the late components of the potential (i.e., the peak-to-peak amplitude between the second and the third peak, with an average peak latency of 14 and 35 ms, respectively). There was an early period of facilitation (5-10 ms inter-stimulus interval) followed by a period of relative or absolute depression (20-100 ms) with recovery at an interstimulus interval of about 150 ms. The recovery function of the early components of the potential (i.e., the peak-to-peak amplitude between the first and the second peak, with an average peak latency of 6 and 14 ms, respectively) was variable; recovery was reached at about 150 ms. The responsiveness seemed less in the most epileptogenic cortical areas.

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