Effects of Stereotaxic Thalamotomy on Late Components of the Somatosensory Evoked Response

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Abstract

Ten patients undergoing stereotaxic thalamotomies had electroencephalograms and computer averaging of cortical responses evoked by left and right median nerve stimulation preoperatively, intraoperatively, and postoperatively. Most of the thalamotomies were performed to relieve rigidity or abnormal movements. All thalamotomies were performed by the posterior trajectory using radiologic and electrophysiologic techniques to localize the targets which were usually V.O.p. and V.O.a. nuclei. Evoked responses were also obtained from V.P. The postoperative EEG changes were minor in general but the somatosensory-evoked responses showed variable changes with some showing general simplification on the side of the lesion with contralateral stimulation. This finding was seen with no apparent clinical deficit. A lesion for pain in CM-Pf. region produced bilateral changes. Four thalamotomies with V.O.p. lesions and V.O.a. lesions or V.O.p. lesions alone produced amplitude increases in late components on the lesion side with ipsilateral stimulation. The findings suggest that somatosensory evoked responses may be abnormal in the absence of any objective neurologic deficit or EEG changes following thalamotomy.