

Effects of superior colliculus electrolytic lesion on eye movements evoked through electrical stimulation of the pulvinar-lateralis posterior complex

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In 27 encéphale isolé cats, electrical stimulation of the pulvinar-lateralis posterior nucleus complex (P-LP) evoked oblique conjugate saccadic eye movements, with latencies of 60 to 90 ms and stimulus thresholds of 200 to 300 μ A. Unilateral superior colliculus electrolytic lesion suppressed the eye movements induced by electrical stimulation of the ipsilateral P-LP, even with stimuli three to four times higher than threshold. The contralateral P-LP maintained its capacity to induce eye movement. A motor deficit was observed in the eye ipsilateral to the damaged superior colliculus. Electrical stimulation with 1 to 2 mA of the cerebral cortex receiving afferent projections from the P-LP induced horizontal eye movements with latencies of 130 to 150 ms. These results confirm the P-LP participation in oculomotility and we postulate that the ocular P-LP signal output travels through the ipsilateral superior colliculus. © 1982.