

Department of Physiology

Doctoral Degree
1977

Author	:	Emam H. M. El Negmy.
Title	:	Subcortical somatosensory evoked potentials studied in man.
Dept.	:	Department of.
Supervisors	1.	E. M. Sedgwick.
	2.	G. A. Kerkut
	3.	K. A. Munday.
	4.	L. Illis.
	5.	H. Frankel.
University	:	Southampton.
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Abstract	:	
<p>Using surface recording electrodes and signal averaging , the cervical and lumbar somatosensory evoked potentials were investigated . Following median nerve stimulation , the cervical somatosensory evoked potential consists of four negative components called N9 , N11 , N13 and N14 . Evidence is presented to show that : N9 has its origin in the medial cord of brachial plexus ; N11 is a post-synaptic potential , originating in the dorsal horn of the spinal cord ; N13 and N14 are from more rostral structures , the dorsal column nuclei and thalamus respectively are suggested as sites of origin . Following tibial nerve stimulation in the popliteal fossa , the lumbar somatosensory evoked potential consists of two negative waves called N10 and N13 . Evidence is presented to show that N10 originates in the cauda equina and N13 from the dorsal horn of the spinal cord . Changes and abnormalities in the potentials were examined in three clinical conditions . In multiple sclerosis , low amplitude and abnormally formed or even absent potential were noticed . In certain cases these were shown to be improved during a period of spinal cord stimulation . In cervical spondylosis the responses were delayed or absent in some cases . Patients with traumatic paraplegia showed normal potentials caudal to the lesion but absent or delayed small potential rostrally according to whether the lesion was complete or partial. In some patients with multiple sclerosis , recordings were made from epidural electrodes following stimulation of the cord . Estimates of dorsal column conduction velocities were made and ranged from 8 to 68 M/sec</p>		
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