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Abstract Title:	**Characterization of dorsal horn neuronal ensembles generating different patterns of spontaneous cord dorsum potentials in the cat spinal cord.**
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We examined in the anesthetized cat the organization of dorsal horn neurons generating spontaneous cord dorsum potentials bilaterally in the lumbosacral segments. Predetermined templates were used to select, from segments L5 or L6, spontaneous negative cord dorsum potentials lasting 45-50 ms (nCDP's), negative potentials followed by positive waves lasting 60-100 (npCDP's), or slow positive potentials lasting 40-60 ms (pCDP's). These potentials were used as reference to disclose spontaneous CDP´s appearing in synchrony in other lumbosacral segments. Analysis of the associated intraspinal field potentials (IFP's) showed that the reference CDP's were generated within the dorsal horn. Spontaneous dorsal root potentials (DRP's) appeared synchronized with the reference npCDP's, but not with the reference nCDP's or pCDP's. The IFP's and the DRP's produced by activation of low-threshold cutaneous afferents were facilitated during nCDP's and the negative phase of the npCDP's. They were inhibited during the positive phase of the npCDP's and during the pCDP's. Spontaneous CDP's recorded from neighboring segments in the same side were partially decoupled by an interposed lesion of the ipsilateral dorsolateral quadrant, and entirely by a similar contralateral lesion. It is suggested that the spontaneous nCDP's are generated by activation of first order dorsal horn neurons. The spontaneous npCDP's would be probably due to activation of other sets of dorsal horn neurons connected to the PAD-mediating interneurons, and the pCDP's to inhibitory neurons acting on first order interneurons in the cutaneous pathway. We are now investigating the features of individual dorsal horn neurons that are excited (or inhibited) in synchrony with different types of CDP's to determine if these neurons are part of a distributed system or if they are grouped in discrete, moderately coupled aggregates.

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