Medulla spinalis:

Cornu ant.	Cornu lat.	Cornu post.	Sub intermed. cent.	Sub intermed. lat.	Sub gelatin.	Funic ant.	Funic. lat.	Funic pot	
								Nucl. grac.	Nucl. cune.
+				+			_	+	+
(+)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(+)	(+)

+: the most of cases

-: few or no case

77. Experimental Study on the Clarke's Nucleus

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Morphological changes of the intrinsic central neurons (Liu, 1955) following the serverance of their axons have been studied by many investigators, but little work has been done to study retrograde cell changes of the neurons in the deafferented nucleus (Matthews, 1964, Kanaseki and Shimizu 1967). They reported that retrograde cell changes of the neuron seen in the de-afferented dorsal nucleus of the lateral geniculate body are more severe than those caused by retrograde degeneration alone.

In the present investigation the retrograde cell changes of the neurons in deafferented Clarke's nucleus were studid. The vermis of the cerebellum and unilateral one or two spinal ganglions of the lower lumbar segments of the adult rabbits were removed by electrocoagulations at the same time. Animals were sacrificed by a perfusion fixation method following survival period from 1 to 4 weeks and changes of the Clarke's nucleus in the entire upper lumbar and lower thoracal segments were studied histologically by Nissl's method.

In the Clarke's nuclei of both left and right sides almost all the cells were changed. Some of them showed diffuse general chromatolysis and others showed extreme shrinkage of their cytoplasm and nuclei.

These findings suggest that the retrograde cell changes of the de-afferented Clarke's nucleus seem more severe than those caused by retrograde degeneration alone and are similar to those of retrograde cell changes in the de-afferented lateral geniculate nucleus.

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