研究業績　英文表記

和文	
表題	ウサギにおける凍結処理を施した異系神経移植による神経再生
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英文	
Title	Nerve regeneration through the cryoinjured allogeneic nerve graft in the rabbit.
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Abstract	To examine whether the 3～4 cm-long allogeneic basal lamina tubes of Schwann cells serve as conduits for regenerating axons in rabbits, allogeneic saphenous nerve, which had been predenervated and pretreated by freezing, were transplanted from Japanese White rabbit (JW) to New Zealand White rabbit (NW). Animals were killed 1, 2, 6, 8, and 14 weeks after transplantation, and the cytology at the mid-portion of the grafts was examined by electron microscopy. The distal portion of the host saphenous nerves was also examined 14 weeks after grafting. Myelin sheath debris was phagocytosed by macrophages, while the basal lamina of Schwann cells were left intact in the form of tubes. Regenerating axons were first found in such basal lamina tubes 2 weeks after grafting, and gradually increased in number. Host Schwann cells accompanied the regenerating axons behind their growing tips, separating them into indivisual fibers and forming thin myalin sheaths on thick axons by 6 weeks after grafting. Regenerating nerves were divided into small compartment by new perineurial cells. Newly formed blood vessels were situated outside the compartment 8 weeks after grafting. The percentage of myelinated fibers in the regenerating nerves was roughly10 % at 8 weeks and 30 % at 14 weeks after grafting. The diameter of the regenerating axons, both myelinatd and unmyelinated, was less than that of normal axons at all the stages examined. Numerous regenerating axons, some of which were fully myelinated, were found at the site 10 mm distal to the distal end of the graft 14 weeks after grafting. These results indicate that the Schwann cell basal lamina tubes of cryoinjured allogeneic nerves can serve as conduits for regenerating nerves in the 3～4 cm-long graft in the rabbit.
keyword	nerve regeneration, allograft, cryoinjury, basal lamina, rabbit

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