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Titel des Beitrags:
Acceleration of normal-tissue damage expression by early stimulation of cell proliferation in rat spinal cord.

Abstract:
PURPOSE: To examine experimental strategies for prevention of radiation-induced late spinal cord damage. MATERIAL AND METHODS: The effects of treatment with high, proliferation-stimulating doses of platelet-derived growth factor (PDGF) administered at various times after radiotherapy of rat spinal cord, and aiming at increased tissue regeneration, were studied in an established model. Animals were followed and monitored for expression of radiation myelopathy (RM), which was confirmed by histopathologic diagnosis. RESULTS: High doses of PDGF given 8 weeks after radiotherapy significantly accelerated the development of RM compared to control animals (Figure 1). Such effects were observed also for concomitant treatment, but not for PDGF administration after 12 or 15 weeks (Figure 2). On the microscopic level, the spinal cord showed more pronounced vascular damage with vessel necroses and hemorrhages (Figure 3). CONCLUSION: These data suggest that the vascular system plays an important role during development of RM and that early stimulation of cell proliferation negatively influences the time course of spinal cord damage. Further experiments should address different concepts of tissue regeneration or damage prevention.

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