

First trial in a case of Fibrocartilaginous embolism by dorsolaminectomy and stem cell therapy in a cocker spaniel dog

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Fibrocartilaginous embolism (FCE) is a syndrome of acute, severe neurologic dysfunction of dogs. A 7-year-old, previously healthy, intact female cocker spaniel dog was referred to the Veterinary Teaching Hospital of the Konkuk University 2 hours after an acute onset of paralysis in the pelvic limb. Deep pain sensation was present in both hindlimbs. Deep pain sensation was lost at 10 hours after hospitalization. On MR images, there was a spinal cord edema and swelling. We also found small area of hyper-intense signal of the spinal cord at the L2-L3 inter-vertebral level. CSF analysis showed no specific findings. We tentatively diagnosed fibrocartilaginous embolism. A dorsal laminectomy was performed for decompression. There was no improvement of clinical signs including motor and sensory function for a week after laminectomy. Human umbilical cord blood-derived multipotent stem cells (hUCB-derived MSC) were transplanted directly into spinal cord parenchyma at 7 days after laminectomy. Motor function and urinary function were improved between 5 weeks and 8 weeks after transplantation, but deep pain sensation was not recovered. This result suggests that transplantation of hUCB-derived MSCs may have additional therapeutic effects for spinal cord injury.

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