

Research & Industry
Veterinarian uses stem cells to treat spinal cord disease

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With veterinarians across the country training to use stem cells for tendon and ligament repair, a professor at the University of California, Davis (UC Davis) wants to take the technology a step further by applying them to chronic, cell-based diseases.

Richard Vulliet, DVM, is very early into the work. But he is optimistic about the evidence as it exists, of course, and he may have had a success.

Vulliet has treated four dogs with degenerative myelopathy with their own stem cells, which he prefers to call mesenchymal stem cells or pluripotent marrow stromal cells. The terminology has evolved and those names are more descriptive, he says.

The process works like this: Vulliet derives the mesenchymal stromal cells from bone marrow. The bone marrow aspirate is then filtered and plated (stromal cells adhere to plastic) because only about one cell in 100,000 is the proper mesenchymal stromal cell. He then cultures the cells into an enriched colony, and injects them back in.

He injects the cells systemically into the circulation because it appears that they home to an area of injury. Moreover, when the cells are injected directly into tissue, they tend to just clump there.

“We’re still in the exploratory phase,” he says. “When I talk to possible clients, I generally get the impression they think I know what I am doing. But no, this is research.”

Vulliet’s potential success is a dog named Turbo, a German Shepherd that belongs to his neighbor. A videotape of Turbo prior to treatment shows the dog trying to walk with little, if any, proprioception in its hind limbs. The dog careens and stumbles and hops to get along. At one point, Turbo falls right into Vulliet, who is holding the dog’s leash....

