



Stem Cell Therapy – Not Just for Osteoarthritis any longer.

Mesenchymal stem cell transplantation has been studied as a therapeutic approach for various diseases. While traditionally the bulk of their use in veterinary medicine has been focused on osteoarthritis, recent studies have shown that stem cell therapy is an effective treatment option for acute and chronic hepatic disease, chronic renal disease in both the canine and feline patient, including patients with renal dysplasia, and as a potential treatment option for patients with inflammatory bowel disease.

The process initially involves three steps over a three-day period:

- Day One: A small fat sample from the patient (from the shoulder, inner thigh, or abdomen) during a short surgical procedure. The sample is shipped overnight to the Vet-Stem laboratory for culture.
- Day Two: Vet-Stem processes the fat sample to concentrate the stem cells. The stem cells are shipped overnight back to in ready-to-inject syringes.
- Day Three: The stem cells are injected into the patient at the injured site directly or systemically via IV catheter.

Just like with osteoarthritis, outcome in these cases has shown to be better with direct delivery, and we recommend that the first injection be delivered directly to the target organ if possible. Using fluoroscopy and gaining direct venous access through the femoral artery, we offer the ability to directly deliver stem cells through the renal artery or splenic artery for renal or hepatic disease respectively. For cats with renal disease, patients with IBD, and all subsequent treatments in patients that have had one direct delivery dose, the stem cells are delivered via a peripheral venous catheter.

Stem Cell Case Report:

Bernard is a 16 year SF DLH who presented to us with acute on chronic renal failure and was found to have a ureteral obstruction in her left kidney and evidence of chronic renal disease in her right kidney. On presentation (1/25/18) her creatinine was 5.1 (0.9-2.5 mg/dL) and her BUN was 55 (16-37 mg/dL). A SUB was placed in the left kidney and stem cells harvest at the time of surgery. Her bloodwork s post obstruction removal (1/29/18) showed a creatinine of 3.3 (0.9-2.5 mg/dL) and a BUN of 48 (16-37 mg/dL). Stem cells were delivered via peripheral catheter with no complications. Recheck blood work on 2/8/18 showed a creatinine of 2.5 (0.9-2.5 mg/dL) and a BUN of 43 (16-37 mg/dL) and she was given another dose of IV stem cells at this visit. Recheck blood work on 2/22/18 continued to show improvement with a creatinine of 1.8 (0.9-2.5 mg/dL) and a BUN of 40 (16-37 mg/dL). No stem cells were administered at this visit. She was then presented on 4/4/18 to have her SUB flushed and to get IV



stem cells again, and her values at this time were 2.0 (0.9-2.7 mg/dL) for her creatinine and 35 (16-37 mg/dL) for her BUN.

Bernard continues to feel well, is gaining weight, and is no longer PU/PD. She will continue to get IV stem cells in 2 months and then every 6 months thereafter.

If you have a patient you might think is a candidate for stem cell therapy, please call 206-204-3366 and ask to speak with Dr. Tanya Donovan