

Case 020805-04: 14 Year Old Mare Degenerative Joint Disease Secondary to Sepsis

On February 1, 2005, a 14 year-old Thoroughbred mare was presented for evaluation of a degenerative left tarsal joint due to post injection sepsis. Six months prior to presentation, mepivacaine had been injected into the left tibio-tarsal joint as part of a diagnostic lameness evaluation. Subsequent to injection, the joint became septic and the mare was transferred to a regional referral center. The mare's tibio-tarsal joint was lavaged and treated with a regional anti-microbial infusion for 10 days.

The infectious process eventually subsided with therapy, but the joint developed reactive proliferation of the articular bony surfaces. The mare presented severely lame on February 1, 2005 for a third and final opinion as the owners were considering euthanasia.

Physical Examination of the mare found her to be non-weight bearing lame (5/5) on the affected limb (Fig 1). The left tarsal joint had significant joint effusion and the mare was painful upon manipulation. In addition, the mare was estimated to be 250 lbs. underweight as a result of the chronic pain. Radiographs of the affected limb revealed diffuse, proliferative osteoarthritis of the tibio-tarsal joint, with expansion into the proximal and distal intertarsal joints (Fig 2).



Figure 1 : February 2005



**Figure 2 : Severe Osteoarthritis
Left Tarsus, February 2005**



Figure 3 : May 2005

On February 7, 2005 twenty-two grams of subcutaneous adipose tissue were excised from over the right hip and submitted for stem cell recovery.

On February 9, 2005 10 million adipose derived stem cells were delivered to the tibio-tarsal joint by intra-articular injection using aseptic technique. The mare was continued on her daily anti-inflammatory regimen of up to 4 grams of phenylbutazone to decrease the overall chronic pain. Approximately 10 days post treatment she began showing signs of increased comfort and ambulation. A second stem cell preparation of previously frozen cells containing 4.5 million cells was administered on April 1, 2005 and the mare continued to show increasing comfort, as well as decreased effusion of the affected joint. As her condition continued to improve, her daily NSAID requirements continued to decrease.

By May 2005, the mare was ambulating comfortably, was being turned out daily, and had gained significant weight since the original evaluation (Fig 3). Her comfort level had increased so dramatically that her only anti-inflammatory requirements were a tapered dose of meclufenamic acid every 3 to 4 days as needed.

This mare continued to improve to the point that in July, 2005 she was returned to light riding, an activity not performed since 2004 (Fig 4).



Figure 4 : July 2005