

# **AUTOLOGOUS ADIPOSE-DERIVED STROMAL/STEM CELLS WITH PLATELET-RICH PLASMA AS BIOCELLULAR REGENERATIVE THERAPY IN THE TREATMENT OF CHRONIC PROXIMAL HAMSTRING TENDON TEAR**

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Kentaro Onishi, DO; Donna Alderman, DO; Robert Alexander, MD

**CASE DIAGNOSIS:** Chronic Proximal Hamstring Tendon Tear

## **CASE DESCRIPTION:**

We present the case of a chronic, traumatic proximal hamstring tendon tear in 28 year old male. High-definition ultrasound showed an avulsion tear at the confluence of the biceps femoris tendon, semitendinosus tendon, and sacrotuberous ligament at their entheses. Injury was treated using local anesthesia and closed microcannula lipoaspiration harvest of adipose tissue combined with high-density platelet-rich plasma (HD-PRP). This therapeutic modality was carefully placed at site of documented tear using ultrasound guidance. The patient had near-complete resolution of pain and a dramatic increase in function. Post-treatment ultrasound documented evidence of tendon repair without scarification.

## **DISCUSSION:**

Autologous adipose-derived stromal/stem cells in combination with HD-PRP have gained recognition in a variety of musculoskeletal applications. Our case is an example of the effective use of such biocellular treatment of a tear in hamstring tendons. The combination of cell source (lipoaspirate) with its native bioactive scaffolding, coupled with HD-PRP additive (concentrated growth factors and signal proteins), have proven very effective in a variety of injured and degenerative musculoskeletal conditions. It has become clear that the microenvironment in which this biocellular modality is placed is essential to the efficacy of the treatment. The case presented demonstrates the effective functional and anatomic resolution of a tendon tear without scarring, thereby reducing the risk of re-injury associated with such scars.

## **CONCLUSIONS:**

This case documents the use of a biocellular regenerative protocol using autologous adipose-derived stromal/stem cells and HD-PRP injection, which can be considered a safe and effective alternative to surgical treatment of hamstring tendon tear/tendinopathy. This non-surgical treatment option offers advantages because of its ease of performance, minimum recovery, and lack of scarring, reducing risk of recurrence.