Outcomes of Iliac Crest Bone Marrow Aspirate Injection for the Treatment of Recalcitrant Non-Insertional Achilles Tendinitis

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**Introduction/Purpose:** Non-insertional Achilles tendinitis is a common cause of posterior ankle and heel pain in active and sedentary patients. Though the majority of patients respond to first-line non-operative management including activity modification, immobilization, orthotics, and physical therapy with tendon stretching, there is no consensus for patients that fail these treatments. We evaluate the role of iliac crest bone marrow aspirate concentrate (BMAC) as a safe and effective treatment option for recalcitrant cases.

**Methods:** A retrospective chart review was conducted of patients with greater than 12 months of non-insertional Achilles tendinitis symptoms despite appropriate conservative treatment. Each patient had BMA harvested from the iliac crest, concentrated by centrifugation, and then injected into the Achilles tendon. Symptoms were assessed using the Visual Analogue Scale (VAS) pain score, collected at the preoperative office visit and at 6 weeks, 12 weeks, and 24 weeks after the procedure. Co-morbidities, concurrent procedures, and complications were also recorded.

**Results:** A total of 21 patients (22 feet) were treated with iliac crest BMA concentrate injections. Preoperatively, the average VAS pain score was 6.8 (SD 2.0). Postoperatively, the average VAS was 4.0 (SD 2.5) at 6 weeks, 2.7 (SD 2.1) at 12 weeks, and 2.2 (SD 2.1) at 24 weeks. At 24 weeks postoperatively, there was a statistically significant decrease VAS score from baseline (p < 0.001), with a mean decrease by 4.6 (SD 3.1). There were no adverse effects reported at the surgical site or donor site morbidity at the iliac crest such as wound infection, hematoma, or persistent pain.

**Conclusion:** Iliac crest BMAC appears to be a safe, effective, and potentially lasting treatment option for patients with intractable, non-insertional Achilles tendinitis. Patients demonstrated a statistically significant decrease in VAS pain score postoperatively with no complications at the donor or injection site.