

Particulate Umbilical Cord/Amniotic Membrane for the Treatment of Plantar Fasciitis

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Category: Hindfoot

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Introduction/Purpose: Plantar fasciitis is the most common cause of heel pain, resulting in an estimated 1 million visits to medical professionals annually. Conservative treatments for plantar fasciitis include rest, orthotics, night splint, stretching and non-steroidal anti-inflammatory drugs. Such treatments are successful in nearly 90% of patients, however, more invasive treatments are required for patients whose heel pain symptoms persist greater than six months. Fetal tissues, including the umbilical cord (UC) and amniotic membrane (AM) have been increasingly used to modulate healing in different parts of the body over the last two decades. These tissues have been demonstrated to possess anti-inflammatory and anti-scarring properties in addition to containing growth factors, cytokines, and matrix components to promote healing, and offer a potential therapy for plantar fasciitis.

Methods: In this clinical series, we sought to evaluate the efficacy of cryopreserved, particulate UC/AM tissues as a treatment for plantar fasciitis as well as to determine if multiple injections provide an even greater benefit compared to a single injection. A multicenter prospective study was performed where patients were randomized to receive 25, 50, or 100 mg UC/AM tissue and either a single injection or two injections (at baseline and six weeks). All injections were administered under ultrasound guidance into the plantar fascia. At six, 12, and 18 weeks, patients returned and data on foot pain as well as the FAAM questionnaire were collected.

Results: Last year, we presented interim data on 18 patients who had completed 18 weeks of follow-up. This year, we present the completed results of the study. Overall, patient foot pain was found to be significantly reduced in all treatment groups from baseline. FAAM scores for both activities of daily living and sports subscales also improved in all treatment groups, with overall improvement ranging from 60 – 150% compared to baseline. All patients showed variable degrees of improvement with no patients showing any deterioration.

Conclusion: The results of this case series are similar to the results of an earlier study which found that injection of a particulate human amniotic membrane product for plantar fasciitis was safe and comparable to corticosteroids. While all treatments demonstrated improvement in both foot pain and FAAM scores, there was both a dose dependent as well as injection dependent effect of particulate UC/AM tissue on foot pain reduction (100mg > 50mg > 25mg; 2 injections > 1 injection) suggesting a possible additive effect. Overall, these results are promising and highlight the potential effectiveness of UC/AM tissues as a treatment for plantar fasciitis.

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