

Injectable amniotic membrane/umbilical cord particulate for knee osteoarthritis: A game changer



Ramon Castellanos

USA StemCell Clinic, USA

Biography

Ramon Castellanos obtained his medical degree, cum laude, at superior Institute of Medical Science Havana in 1987. He then became an orthopedic surgeon with the highest rank upon graduation at Frank Pais Orthopedic Hospital in 1991. In the United States he completed his medical boards and finished 4 years of a residency in Physical Medicine and Rehabilitation, obtaining the Board Certificate by ABMS in 2000. Additionally, he completed a fellowship in Pain Management. He began working in private practice in 2002 and founded InternationalPain Institute, where he pioneered work in Regenerative Medicine and became one of the first physicians to introduce the use of biologics (PRP) in his pain practice. In 2007, He began deriving stem cell from bone marrow and a year later, derived stem cells from adipose tissue. He has treated orthopedic and spine disorders with autologous stem cell as well as biologics for almost 8 years, completing around 7000 successful cases. In 2016, he began working with allogenic stem cell from perinatal tissues, and by 2018 he had made it the primary treatment for his elderly patients. Research has been conducted to support his theory that cellular and acellular allogenic perinatal tissue are more effective in orthopaedic conditions than autologous cells (included culture and expanded). Currently, he works at his world-renowned institute, USA StemCell, in his beloved Miami. He is a well-known bilingual speaker, having lectured in several continents.

Abstract

To evaluate the short-term safety and effectiveness of amniotic membrane/umbilical cord particulate (AMUC) in managing pain in patients with various severities of knee osteoarthritis (OA).

Design: Single-center, prospective, investigator-initiated pilot study.

Setting: Private practice. **Subjects.** A total of 20 knee OA patients aged 18 years were enrolled with pain >40 mm, as determined by the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC)-A.

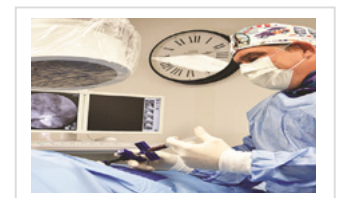
Methods: Patients received an ultrasound-guided, intraarticular injection of 50 mg of AMUC particulate reconstituted in 2 mL of preservative-free saline. All patients were then monitored at six weeks, 12 weeks and 24 weeks postinjection. Patients who did not show >30% reduction in pain received a second injection of AMUC at six weeks. WOMAC, Patient Global Assessment, medication usage and magnetic resonance imaging (MRI) were assessed.

Results: Knee OA pain significantly decreased from 74.3 6 17.2 at baseline to 45.0 6 25.4 at six weeks ($P < 0.01$), 35.4 6 26.6 at 12 weeks ($P < 0.001$) and 37.4 6 26.7 at 24 weeks ($P < 0.001$). This pain reduction was associated with a significant improvement in physical function (WOMAC-C) at all time points ($P < 0.05$) and stiffness (WOMAC-B) at 12 weeks ($P \frac{1}{4} 0.01$). Eleven patients received a second injection, which was significantly correlated with body mass index >30 kg/m² ($P \frac{1}{4} 0.025$). MRI evaluation of the overall population revealed an improvement in the severity of bone marrow lesions in seven patients. No adverse events were observed.

Conclusions: AMUC particulate injection relieved pain and improved physical function in patients with symptomatic knee OA.

Publications

1. Radiation exposure to the spinal interventionalist performing lumbar discography.
2. Pain Physician
3. Botwin KP, Fuoco GS, Torres FM, Gruber RD, Bouchlas CC, Castellanos R, Rao S
4. Complications of fluoroscopically guided interlaminar cervical epidural injections.
5. Arch Phys Med Rehabil
6. Botwin KP, Castellanos R, Rao S, Hanna AF, Torres-Ramos FM, Gruber RD, Bouchlas CG, Fuoco GS



[4th World Congress and Expo on Cell & Stem Cell Research](#) | Paris, France | February 21-22, 2020

Citation: Ramon Castellanos : *S Injectable amniotic membrane/umbilical cord particulate for knee osteoarthritis: A game changer*: Stem Cell 2020: 4th World Congress and Expo on Cell & Stem Cell Research, Paris, France, February 21-22, 2020: page no: 10