Stem Cell Injections Show Positive Results in Neuropathic Pain Study

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A small, preliminary study showed women who were diagnosed with neuropathic trigeminal pain responded well to stem cell treatment, according to research published in the Journal of Pain Research.   An Australian team of researchers administered liposuction to 10 female patients between the ages of 27 and 80 years who had not responded well to other forms of treatment. Each patient’s symptoms had been ongoing from a minimum of 4 months to 6 years and 5 months.   After the lipoaspirate was digested with collagenase, it was washed with saline 3 times. Then, after centrifugation, the stromal vascular fraction (SVF) was again mixed with saline, and transferred to syringes for injection into the pain centers, according to the researchers.   Most patients, 8 females, had a diagnosis of atypical odontalgia (or intra-oral neuropathic pain), one patient had facial neuropathic pain, and one patient had trigeminal autonomic cephalalgia (SUNCT, or short-lasting unilateral neuralgiform headache with conjunctival injection and tearing) with additional facial neuropathic pain symptoms.   “We investigated the safety and efficacy of injecting the SVF-containing adipose-derived stem cells in 10 subjects with an established diagnosis and who demonstrated neuropathic pain symptoms,” wrote the authors. “The purpose of this investigation was to assess proof of concept and evaluate the safety of a high concentration of mesenchymal stem cells (MSCs) in patients with clinical neuropathic pain.”   Before treatment, 6 patients reported sharp neuralgic pain, 7 said they had burning pain, and 6 listed aching pain. Before treatment, the patients rated their pain on a scale of zero to 10, which totaled an average of 7.5. After 6 months, the average decreased to 4.3 on the same scale.   After 6 months, the patients were evaluated based on a 2-pronged analysis: pain intensity measured using a scale of zero to 10, and daily dosage requirements of antineuropathic pain medication. Five of 9 patients had reduced scores in both factors. The same 5 patients were able to reduce their need for antineuropathic pain medication. One patient was lost to follow-up after a one-month post-review.   The researchers observed no unusual swellings or lesions at any of the injection sites — 26 of which were intraoral and 5 were facial — at baseline or at the 6-month follow up.   “The administration of a mixed population of adipose-derived cells, including MSCs, was shown to be able to attenuate orofacial neuropathic pain symptoms in a diverse range of patients considering variables of age and the established duration of the pain state,” the authors concluded. “The positive efficacy and safety results (7/9 patients and 9/9 patients, respectively) of this study mandates further clinical evaluation of neuropathic pain in a randomized controlled trial.”   While the researchers noted there was no “’miraculous’ pain relief” resulting from the procedure, they did believe there was a low likelihood of a placebo response, due to the group’s prior experience with multiple drug trials. Those patients who did not respond well were both noted to have background issues of personal stress that existed prior to baseline and continued throughout the 6-month trial period.