Adipose-Derived Stem Cells and Their Place in Regenerative Medicine

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Although there was a time when the mention of “stem cells” brought to mind procedures and practices involving neonatal cell extraction and painful bone marrow surgeries, regenerative medicine researchers have provided a strong case for adult stem cells in the treatment of disease. In fact, for use in the majority of cell-based therapies adult stem cells are the preferred tool for treatment. Human adipose tissue, a resource adults in developed countries have in abundance (in most cases) is a plentiful source of readily accessible multipotent stem cells. These ASDC’s (adipose-derived stem cells) are ideal for regenerative therapies. One significant advantage is their ability to specialize once injected. If delivered to the site of nerve damage, ASDC’s will approximate nerve tissue and begin repairing; if injected into an arthritic joint, stem cells begin to build connective tissues and repair degenerative damage; when introduced into a damaged heart, these specialized cells form muscle tissue and vascular structures. Another advantage over other methods of stem cell extraction is that adipose-derived stem cells are easily harvested using a painless outpatient procedure, require minimal lab-based interaction before they are viable, and do not deplete the patient of necessary tissue as a side effect.

Adipose-derived stem cells have proven to possess immune regulatory properties as well. In the case of an autoimmune disorder such as rheumatoid arthritis or muscular dystrophy, the body’s own immune system has turned on itself. Healthy tissues are mistaken as foreign and attacked, leaving cells, tissues, and organs damaged and non-functional. Conventional medical interventions simply mask the symptoms for as long as they can, and eventually, the organs fail and require transplantation. The immunosuppressant quality of ASDC’s can specifically target the immune factors that are targeting healthy cells without compromising the immune system itself, leaving patients at risk of opportunistic infections. In the case of Osteoarthritis and Rheumatoid arthritis, the autologous (patient’s own) stem cells are simultaneously rebuilding damaged tissue and suppressing the damaging immune agents to facilitate healing. Patients report an improved quality-of-life rather than simple symptom management when utilizing stem cell therapies.
Given the various attributes of stem cell therapies using ASDC’s, it is easy to see that they are highly relevant for clinical and therapeutic applications. Their potential for infinite differentiation makes them equally effective at targeting diabetes and Alzheimer’s in the future, and the possibilities are endless. Because the cells originate in the patients themselves, there is little chance for rejection even in the case of autoimmune disorders. The procedure is simple, painless, and patients are home often on the same day as treatment. Cell-based therapies are safe for patients even of advanced age and carry a very low rate of morbidity. Although research is constantly being undertaken to find new and exciting ways to utilize stem cells in regenerative medicine, it is currently available to treat a variety of conditions. Chances are you or someone you know could benefit from cell-based therapies, and you didn’t even know it.

We at Gulf Coast Stem Cell & Regenerative Medicine Center are committed to delivering the highest standard of care to our patients. As proud members of the Cell Surgical Network (CSN), you can be assured that we provide top-of-the-line care while helping our patients increase mobility and functionality. We help provide solutions for everything inflammatory, autoimmune or degenerative, ranging from Alopecia to Scleroderma, provide stroke recovery options, relief from Rheumatoid Arthritis, Parkinson's, and Neuropathy, in addition to a host of degenerative joint complaints. We are part of a giant research project, through the CSN, that first addresses the safety, then the benefit, efficacy, and predictability of stem cell deployment and outcomes in various disease entities. Our safety record has been published in a peer-review journal, which shows an excellent safety record to the procedure.

For more information on the full list of diseases and disorders that we currently address, please call (866) 865-4823 for a consult, visit our website or our facility which is located at 1153 Ocean Springs Rd. Ocean Springs, MS. 39564.