**Sexual Function/Dysfunction/Andrology: Peyronie's Disease**  
Funding: Product Donated  
PD22-01: **Determining the Feasibility of Using Stem Cells to Treat Erectile Dysfunction in Humans**  
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**Abstract: PD22-01**  
**Introduction and Objectives**  
Stem cell therapy is thought to improve wound healing and promote vasculogenesis. Erectile Dysfunction (ED) is largely from microvascular disease such as diabetes and hypertension. This study seeks to evaluate the feasibility and effects of intracavernosal injection of Placental Matrix derived Mesenchymal Stem Cells (PM-MSCs) for the treatment of ED.

**Methods**  
After obtaining Western IRB approval, patients with ED were screened with the International Index of Erectile Function (IIEF). We excluded post prostatectomy patients. Once patients were selected they underwent informed consent and Doppler Ultrasound of their penises pre and post injection with 0.2cc of Trimix for standardization of results. Measurements were obtained for Peak systolic Velocity (PSV) and End Diastolic Velocity (EDV), stretched penile length (SPL) pre-injection, and width post-injection of trimix. On a separate visit, 1 cc of PM-MSCs was diluted with 2 cc of isotonic saline to a total of 3 cc. Next, 1.5 cc was injected into each corpora at the base of the penis. The product injected is a placental stem cell product that mixes mesenchymal stem cells with growth factors and cytokines and an extracellular matrix to promote wound healing, angiogenesis, and tissue repair. At 6 weeks and 3 months patients were reevaluated pre and post injection of trimix.

**Results**  
There are 7 patients that have been injected with PM-MSCs with 6 week follow up. Follow up data at 3 months exists for 3 patients. At 6 weeks, all 7 patients’ PSV post trimix injection increased (5.4% - 70.2%). All patients’ SPL increased (1.3% to 7.1%) and all patients’ penile width increased (1.6%-23.8%). All 7 patients were happy they had the treatment, and 2 patients that had previously failed all oral therapies were now getting erections on their own. At 3 months, PSV post trimix injection had increased in all 3 patients (28.4% - 52.1%) Using unpaired t-tests, this was statistically significant with a p < 0.05. EDV post trimix increased in 2 patients achieving statistical significance (p < 0.05). At 3 months, 1 additional patient was now able to achieve erections on his own. IIEF increased in all of these patients (21.4% -36.8%). There were no reported complications.
Conclusions
This is one of the first studies to evaluate the ability and effects of using Stem Cells to treat erectile dysfunction. Although the sample size is small, the results are very promising. PM-MSCs needs to be evaluated further to determine their ability to repair the Corpora Cavernosum and assist patients in achieving erections.

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