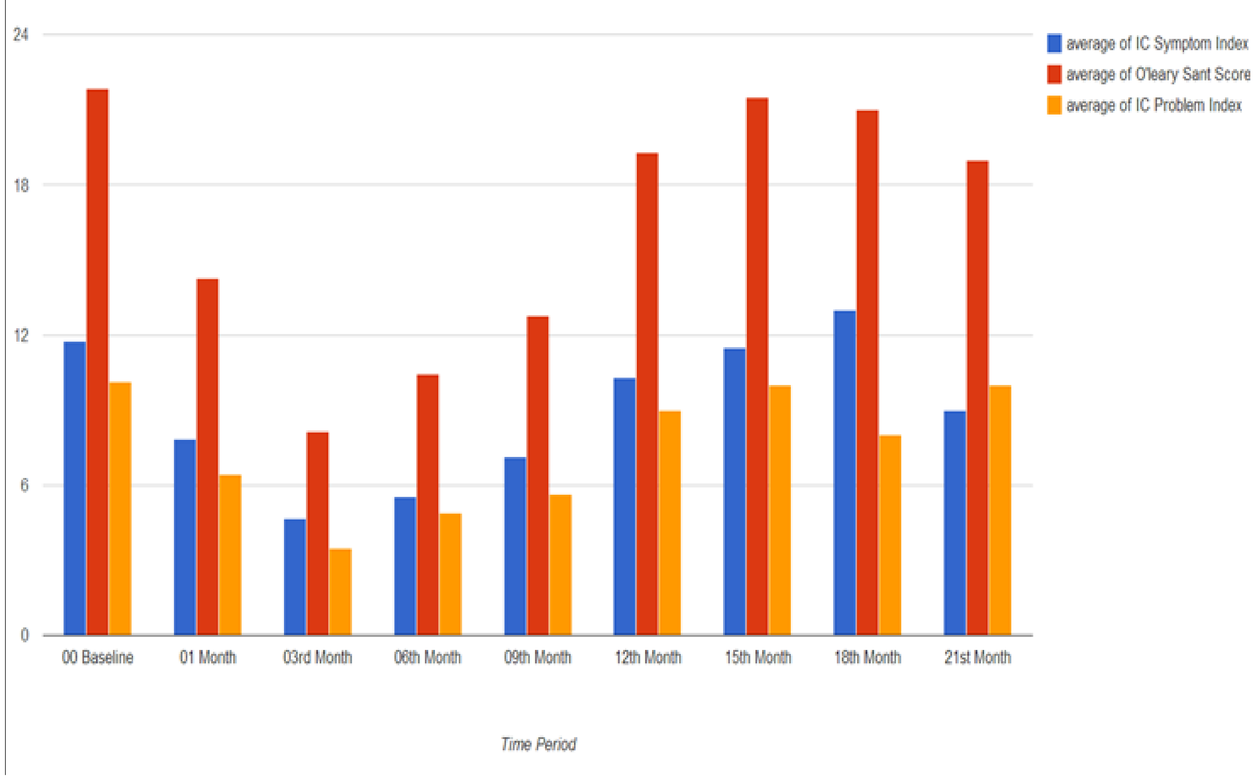
AUTOLOGOUS ADIPOSE DERIVED STROMAL VASCULAR FRACTION FOR THE TREATMENT OF INTERSTITIAL CYSTITIS-A PILOT STUDY

Elliot B. Lander MD, Mark L. Berman MD, Jackie R. See MD

INTRODUCTION: We evaluated the safety and efficacy of deployment of SVF Stromal Vascular Fraction (rich in adult mesenchymal stem cells and growth factors) in a small group of patients with refractory Interstitial Cystitis. SVF can be easily obtained from adipose tissue lipo-aspirate and can be procured and deployed within a few hours in the operating room as a type of lipo-transfer procedure.

METHODS: After IRB approved consent, seventeen patients with IC were selected for SVF deployment. A closed system (TimeMachine™ by MediKhan) device was used for SVF procurement. SVF was then deployed intravenously and also locally as an injection into the trigone and/or instillation into the bladder lumen. Patients were evaluated using Visual analog pain, PUF and O'leary-Sant scores before and 6 months after treatment.

OBJECTIVES: Over 6 months, PUF scores decreased from a mean of 20.3 to 14. O'Leary-Sant scores decreased from 22.5 to 11.3 and Pain scores went from 6.7 to 2.2. There were no adverse events related to the procedures.



CONCLUSIONS: Systemic and local deployment of SVF in a small group of IC patients can significantly decrease frequency, urgency, pain and improve pain levels. Some of the improvement may be related to the immuno-modulatory effects of SVF. Given our small study population, it is difficult to draw any substantive conclusions from these pilot data. Nonetheless the results of this study are compelling for these patients who had failed all standard therapies for IC. It is noteworthy that improvement started to degrade after 6 to 9 months and this suggests a role for re-treatment which may be more feasible once cryo-preserved SVF is available. Cell based therapies may have a role in the treatment of interstitial cystitis and further studies are needed to determine long term results.