January 2017 Update from the US Institute for Advanced Sinus Care and Research

Dear ENS Community,

Attached is our update for our ongoing efforts to prevent, bring awareness, and cure ENS.

1. What have been the results of your PRP/ACell injections for ENS?

As of December 31, 2016, we have treated 306 patients with ENS with PRP/Acell injections in the 2 ½ years we have been offering this therapy. Of this, 68 patients are who we would deem to have had a very significant and lasting improvement to their symptoms. 129 patients have had a minor to moderate improvement, 20 patients had a moderate or significant improvement that has significantly faded, 41 patients have had either no improvement or a short temporary benefit only (and 2 patients felt their ENS symptoms became worse after an injection), and 48 patients we did not have any follow up contact to assess their improvement. In percentages this is a 76% benefit rate, which has remained pretty consistent over time. On average, patients have had 2.6 injections, with 3 patients having greater than 10 injections, and 156 patients having had one injection. We have noticed an increase in patients who feel that the benefits have been temporary. This will be discussed below. The injections in my opinion have been very safe. We have had one patient who felt she was allergic to these injections and needed a course of therapy with steroids, which resolved her symptoms after a few weeks. We have had 6 patients complain about their injections: one felt her turbinate became too large, one developed mouth burning, two developed nasal pain, and two patients felt their ENS symptoms have become worse after the injections. Overall, the side effects from the injections have primarily consisted of some pain with the injection due to poor nasal anesthesia and some excessive nasal bleeding after the injections which occurred in less than 2% of cases. Overall, I have been very pleased with the ability of PRP/Acell injections to help many patients with ENS and feel comfortable recommending this as our standard first-line therapy.

2. What about your new therapies for ENS specifically the adipose-derived stem cell therapies mixed with PRP/Acell?

We conducted a small pilot study of stromal vascular fractions harvested from adipose tissue and mixing these with PRP/Acell. We conducted this trial on 25 patients. We were able to harvest adequate fat from all 25 patients, and no patients suffered any complications from the fat harvest (one developed some redness at the harvest site that successfully resolved with some antibiotics). Of the 25 patients who underwent ADSC therapy, 6 noted marked improvement, 15 noted mild to moderate improvement, and 4 noted no benefit.

3. What about your new implants?

We have performed implants with Biodesign/PRP/Acell on 4 patients, all of which have had near total turbinectomies. Of these 4, 2 noted mild to moderate benefit, and 2 noted no benefit. We have not noticed any meaningful regrowth in any of the turbinates.

4. Why are some people only gaining temporary effects with PRP/ACell injections?

I am unsure of this reason. It is possible that with time, patients are having worsening of their ENS pathology and in these patients, each injection only provides a short term relief against the backdrop of worsening symptoms. Most patients have an initial week of significant benefit likely due to the volume expansion that the plasma provides. As this dissipates, it is probable that some patients are not responding to the growth factors and stem cell induction that the PRP/Acell is attempting to

provide. In any case, in 2016 we experimented with increasing the concentration of Acell per patient request. In all of these patients, they noted increased improvement with injections with a greater concentration of Acell. Unfortunately, this is very expensive to our clinic due to the very high cost of the Acell. However, we have depreciated completely our centrifuge this year for our PRP machine. As a result, we will be able to afford doubling the Acell concentration for the same price as previous injections. Typically these injections have costed $2900 each, but we will begin offering this as standard therapy for our standard pricing of $1985 for the first injection and $1635 for each repeat injection. It is our hope that this will improve the longevity and benefit of the PRP/Acell injections.

5. What about the new therapies? What will they cost and who will they be recommended for?

Based on the review of our data, I will be recommending the following therapies for patients in 2017. For patients who have had less than 33% of their turbinates resected, I will recommend PRP/Acell injections as the first line therapy to hopefully improve their ENS symptoms. For patients with 33-66% of their turbinates resected or for those patients who don't receive any benefit from PRP/Acell injections, we will recommend adipose derived stem cell therapy mixed with PRP/Acell. For patients with greater than 66% of their turbinates resected, we will be recommending in office implants with Alloderm/PRP/Acell.

6. You had previously abandoned Alloderm implants? Why are you returning to these?

I did not feel that Biodesign/Acell/PRP implanted into the turbinate remnant was providing enough bulk/airway resistance to patients with near turbinectomies and was not satisfied with the minor to moderate improvements that these few patients had received. On the other hand, Dr. Houser and Dr. Nayak have now published beneficial results with Alloderm implants. As a result, I will try in office implants mixed with PRP/Acell done in the same manner that Dr. Houser and Dr. Nayak have been performing for patients with greater than 66% of their turbinates resected and fail a cotton test. I will likely try these again for the next two years and reevaluate based on the results that I receive.

7. Anything new occur on the advocacy front?

Dr. Houser chaired an ENS interest group at our recent Academy meeting where several doctors and scientists convened and shared thoughts about ENS. It was an effective meeting, however the Academy of Otolaryngology-Head and Neck Surgery recently declined to support a new coding initiative for ENS. The American Rhinologic Society convened a survey about ENS and only 58% of otolaryngologists felt that ENS was a true entity, whereas 33% were unsure and 9% felt it was a psychological entity only. This mirrors other rare diseases, such as fibromyalgia, platelet disorders that cause excessive bleeding etc. During the U.S. Civil War, which was around the time that Louis Pasteur was proving that external bacteria was the cause of wounds, the top doctors and surgeons in the U.S. believed in allowing wounds to suppurate (become infected with pus) to heal. My point of sharing this medical history is for the ENS community not to be perpetually frustrated with the current state of medicine, but to realize that we desperately need to find an objective test to prove the existence of ENS. Outstanding researchers have been engaging in CFD analysis, functional MRI, cotton tests, etc. These are all very helpful and required to continuously increase our understanding of the true causes of ENS, which will drive physician acceptance and eventually third party payment for this syndrome.

8. Why is it so hard to communicate with you?

Unfortunately, we are in the third year of our existence as an advanced sinus institute and I have already reached near full-capacity with my traditional patients. As a result, I have been limited in my ability to post updates and communicate the ENS community. However, this year, we will make a dedicated effort to engage in more social media activities and keep interested members up to date on our ENS efforts. As usual, I am unable to discuss anyone's particular care on public forums, or even provide references to others who agree to discuss their care publicly. We do offer 20 minute phone consultations about general information about ENS and advanced therapies for ENS for $150. Please contact Melanie at info@usasinus.org for more information.

Best wishes,
Subinoy Das

---- Follow-up Information ----

We have had several questions about the Alloderm implant surgery we are now offering in 2017.

1. What exactly will you be doing?

We will be implanting Alloderm mixed with platelet rich plasma and Acell for patients with a positive cotton test and greater than 50% resection of their inferior turbinates.

2. What is the cost?

The cost will be $8350. It is not covered by any insurance.

3. This is cheaper than other surgeries? How so?

We have become skilled at in-office surgeries due to advancements in local anesthetic techniques and instrumentation. As a result, we can offer this surgery in the office without the need for general anesthesia or surgery center costs. This saves our patient around $3000 in anesthesia costs and around $3000 for surgical center fees.

4. Why did you switch back to Alloderm?

We were impressed by recent published reports on the use of Alloderm and not impressed with the bulk provided by Biodesign.

We hope this helps. Best wishes, Shu Das