



## **Breast Augmentation by Bioelectric Stem Cell Homing, Proliferation and Differentiation**

*Study conducted during 2021/2022 by Clínica O'Nay director Carolina Fernandez Noya*

**Background:** Surgical methods using implants were broadly selected for breast augmentation surgery until recently; however, owing to several associated problems, stem cell fat graft procedures have been tried and have shown mixed results and have risk of infections, as a result a new non-invasive breast augmentation was proposed using precise bioelectric signaling sequences to home stem cells from a patient's fat tissue, bone marrow and circulating blood to their breast tissue, then multiple those recruited cells and then differentiate them into adipose tissue with control. Previous to this study the research team conducted safety and efficacy studies in 16 large animals (sheep and bovine) and 9 low dose safety clinical patients.

**Objectives:** This study evaluated the clinical benefits of breast augmentation utilizing bioelectric stimulation controlled stem cell homing, proliferation and differentiation.

**Methods:** The clinical effects were investigated in 15 patients who received one hour of electrical stimulation therapy every other day for 4 weeks with 2 alternating devices. One being the Venture Axion microcurrent stimulator and the other the Mettler 240 milliamp current stimulator. Both devices were already FDA 510K cleared many decades ago for muscle treatment, improving circulation and pain/inflammation relief. Both devices are produced in the USA in Kansas and California respectively. The specific patented signaling sequences cause breast tissue to release on demand and in control SDF1 and PDGF two known stem cell homing factors. Many published studies have documented the ability of these protein expressions to induce stem cell homing include pre-clinical studies at Cleveland Clinic and the University of Florida sponsored in part by this research team.

**Results:** 33% of patients increased in breast volume one cup size from a B to C or from C to a D cup size. 33% of patients increased in breast volume on average about 10%. 33% of patients did not increase in breast volume at all. There were no safety or any adverse events reported at all. It was observed that the 1/3rd that did not have any observed increase in breast volume were the most skinny patients with least body fat. Those with the highest levels of breast volume increase came into the study with the most amount of body fat.

**Conclusions:** This study demonstrates that breast augmentation with bioelectric stimulation controlled stem cell homing, proliferation and differentiation is effective in 2/3rds of treated patients and well tolerated and safe in all patients in this limited 15 patient series. Additional studies are needed to come to any firm conclusions about the performance of the therapy and safety. 2/3rds of patients were very satisfied with their results and 1/3rd were hoping that perhaps they could get a higher dosing to see results in the future in a new study.

**Discussion:** *The research team believes a new study combining stem cell infused fat grafts and bioelectric stimulation stem cell homing should be included in a new study arm.*

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