Summer Research Roundup
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08/12/16

Aerin Medical:
Radiofrequency Sub-Ablation on Bovine Ear Cartilage
Background

- A deviated septum occurs when your nasal septum is significantly displaced to one side.
- Corrective surgery is required for treatment.
Aerin Project Overview

• To address nasal airway disorders in non-invasive office visits
• Modify existing procedures for the application of radio frequency energy to remodel cartilage and change nasal valve structure
Objectives

• To observe damage done by RF sub-ablation
• To assess cell viability of chondrocytes
• Juvenile Bovine auricular cartilage
• 2 Groups: RFA treated (RF), Untreated pressed control (UT)
• Live stain: calcein AM (green)
• Dead stain: ethidium homodimer-1 (EthD-1) (red)
Before Treatment

RF = 18s
Contact = 30s

After treatment
Live/Dead Analysis

Treated Sample
Treated sample Live/Dead
Untreated Sample
Untreated sample Live/Dead
After 48 Hours

Treated Sample
After 48 Hours

Treated Sample Live/Dead

Live

Dead

Live Stain

Dead Stain

200 μm
PRECLINICAL STUDIES – 6 mo. GLP Canine

Key Results:
• No significant fibrosis.
• Cartilage is stable and structurally intact.
Conclusions

• RF treatment causes immediate and delayed damage to chondrocytes.
• RF sub-ablation localizes damage to treatment area
Looking to the Future

- Apoptosis study with Caspase
- Varying application temperature
- Varying application time
- RF treatment on nasal cartilage
Acknowledgements

- CHAMPS HHMI Program
- Ben Cohen
- Professor Bonassar
- Lena Bartell, Cohen Lab