**A Mouse Model to Assess Neointimal Formation following Endothelial Denudation and Bioresorbable Stent Implantation**

**Introduction**

Coronary Heart Disease is the most common type of heart disease and is the number one cause of death for both men and women in the United States. More than 385,000 people die from CHD annually and treatment costs $108.9 billion each year. (Centers for Disease Control and Prevention, 2013)

**Chronic Stenting - Preliminary Results**

**Acute Endothelial Denudation**

**Introduction**

Neointimal Hyperplasia - Vascular smooth muscle cell invasion causes vessel diameter to decrease and intimal wall thickness to increase. Neointima formation is the cause for stent failure also known as in-stent restenosis.

**Objective**

Develop a mouse model to assess bioresorbable stent implantation.

**Image Analysis**

**Future Work**

- 28 day chronic stenting study - Further analyze remaining replicates for neointimal formation in abdominal aorta after endothelial denudation and stenting.
- DES appear to impair downstream dilation of vessels compared to BMS.
- Our lab is interested in exploring the impact of bioresorbable stent implantation on microvessel reactivity.

**Conclusion**

- Over 28-days, mean wall thickness increases but neointimal thickening is not observed.
- Acute stenting demonstrates proof of concept with no migration.
- Chronic stenting shows variable neointimal response to both sham and stent samples.

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