CD4+ T cells and regulatory T cells on day 20 in α-IL-10R MSEW mice compared to NR counterparts. This difference disappeared by day 30. Histological scoring showed no difference in disease severity between α-IL-10R treated MSEW and NR mice on day 20. However, on day 30, when α-IL-10R NR mice are recovering from colitis, MSEW mice showed persistent histological inflammation, mainly attributable to sustained epithelial damage. DISCUSSION/SIGNIFICANCE OF IMPACT: Our results suggest that ELS prolongs mainly attributable to sustained epithelial damage. DISCUSSION/SIGNIFICANCE OF IMPACT: Our results suggest that ELS prolongs intestinal inflammation and impairs epithelial repair. Future studies will focus on elucidating the mechanisms responsible for ELS-dependent impairment of mucosal repair in experimental colitis.

**Evaluating the effect of a compliant stent-graft prototype on effective stiffness in a cadaveric aorta**

Shannen B Kizilski1, Filippo Coletti, PhD2, Rumi Faizer, MD2, and Victor H. Barocas, PhD2

1University of Minnesota CTSI; 2University of Minnesota

OBJECTIVES/GOALS: High aortic stiffness is associated with increased cardiovascular morbidity and mortality. The purpose of this work is to demonstrate the potential of our compliant stent-graft design to therapeutically increase aortic compliance over a standard aortic stent-graft. METHODS/STUDY POPULATION: The aorta from a human cadaver will be excised and placed into a pulse duplicator circuit. The stiffness of the system will be estimated using the pulse wave velocity (PWV), which will be calculated using the time delay between pressure measurements at proximal and distal locations in the system. Baseline measurements with the unstented aorta will be compared to two cases: (1) with a standard stent-graft placed, and (2) with our compliant stent-graft prototype in the descending thoracic aorta. PWV is calculated as the distance between the pressure sensors divided by the time delay. Faster PWV is associated with a stiffer vessel, or lower aortic compliance. RESULTS/ANTICIPATED RESULTS: Prior work in vitro showed that the compliant stent-graft reduced peak and pulse pressures compared a standard, rigid stent-graft. We also expect the compliant device to exhibit lower PWV compared to a rigid stent-graft. Depending on the aortic tissue stiffness, the compliant stent-graft could raise or lower PWV compared to no stent. Mean pressure in the compliant case is likely to be slightly higher than the other two cases because the compliant stent-graft’s narrower lumen increases flow resistance. Although mean pressure will be higher, peak pressure should be lower than in the standard stent-graft because the added compliance decreases overall pressure swing between systole and diastole. DISCUSSION/SIGNIFICANCE OF IMPACT: Lower PWV in the compliant stent-graft over the standard stent-graft will indicate its potential to therapeutically lower aortic stiffness in patients needing aortic stenting. Positive outcomes from this study will be a step toward the eventual translation of a compliant stent-graft to clinical use.

**Glucocorticoid Receptors are essential effectors of TGFβ signaling in Triple Negative Breast Cancer**

Carlos Jesus Perez Kerkvliet1, Amy R Dwyer, Caroline Diep, Robert Oakley, Christopher Liddle, and Carol A Lange

1University of Minnesota CTSI

OBJECTIVES/GOALS: The glucocorticoid receptor (GR) is a ubiquitous steroid hormone receptor that is emerging as a mediator of breast cancer metastasis. We aim to better understand the biology associated with phospho-GR species in TNBC and their contribution to tumor progression. METHODS/STUDY POPULATION: To better understand how phospho-GR species may impact TNBC cell biology, we probed GR regulation by soluble factors that are rich within the tumor microenvironment (TME), such as TGFβ. TNBC cells harboring endogenous wild-type or S134A-GR species were created by CRISPR/Cas knock-in and subjected to in vitro assays of advanced cancer behavior. RNA-Seq was employed to identify pS134-GR target genes that are uniquely regulated by TGFβ in the absence of exogenously added GR ligands. Direct regulation of selected TGFβ-induced pS134-GR target genes was validated accordingly. Bioinformatics tools were used to probe publicly available TNBC patient data sets for expression of a pS134-GR 24-gene signature. RESULTS/ANTICIPATED RESULTS: In the...