GEN90 – Characterization of Endothelial Exosomes in Aortopathies

OBJECTIVE: Aim 1 is to quantify total plasma and endothelial specific exosome populations in patients with aneurysmal Marfan Syndrome compared with age matched controls. Aim 2 is the purification and characterization of the proteomic and RNA cargos of an enriched endothelial exosome subpopulation in Marfan patients compared with age matched controls.

ORGANIZATION

Lead Investigator: Prashanth Vallabhajosyula MD

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Funding Source: University of Pennsylvania

BACKGROUND AND RATIONALE

There is a critical need for monitoring aortopathies i fashion. There is no such molecular biomarker that e group has recently discovered that transplant tissue profiles from the patient's plasma can serve as a nov for monitoring transplant rejection. We propose tha exosome profiling from the patient's plasma has the novel biomarker platform to monitor for aortopathie there is no report investigating endothelial exosome patient versus those with aortopathies. In addition, functional roles of exosomes, we believe our ability specific exosomes opens the window towards invest therapeutic manipulation of endothelial exosomes ir aortopathies.

DESIGN

Method:

- Quantifiication and purification of endothelial specific exosomes from pasma using NanoSight nanoparticle detector technology and affinity antibody bead-based exosome purification.

Inclusion criteria:

- Marfan Syndrome
- Male
- 18 – 39 years of age

Samples:

- Plasma