



GEN88 – Inflammatory cytokines as a triggering mechanism of aortic dissection

OBJECTIVE: Assess inflammatory cytokine levels in a serial manner in high-risk patients with genetic aortopathies in GenTAC before and after dissection will help to identify whether elevations in inflammatory cytokines are associated with onset of the condition.

ORGANIZATION

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BACKGROUND AND RATIONALE

A murine model of aortic dissection recently identified the inflammatory cytokine, granulocyte macrophage colony stimulating factor (GM-CSF), as a triggering molecule of aortic dissection. Elevated levels of the cytokine with aortic inflammation were sufficient to cause the condition, and neutralization of the cytokine by neutralizing antibodies prevented the condition. The cytokine interleukin-6 (IL-6) was also shown to have an association with aortic dilatation in GENTAC patients, suggesting that inflammatory components might contribute to evolution of aortic pathology in genetic aortopathies.

If inflammatory cytokines are identified to be elevated prior to dissection, they might serve as surrogate biomarkers for identifying patients that are at risk for the condition. Importantly, they can also serve as targets for therapeutic intervention, and can potentially serve as the basis for a subsequent study to address whether neutralization of inflammatory cytokines can be a preventive treatment of aortic dissection in genetic aortopathies and beyond.

DESIGN

Method:

- Levels of circulating inflammatory cytokines (e.g. IL-6, GM-CSF) in 15 pre-dissection patients will be compared with 138 non-dissected patients.

- These measurements, along with the post dissection results will be further analyzed for the change with time.
- Sub-group analysis regarding age, clinical diagnosis and comorbidities is also planned.

Inclusion criteria:

- Subjects enrolled in the GenTAC study
- Age 18 years or older

Samples:

- Plasma

Data:

- Surgical
- Genetic
- Image
- Pregnancies
- Medication Use
- Family History
- Demographics

CONCLUSIONS

Results:

- Pending*