



Rapid Anthrax Diagnosis & Treatment

BIDMC #1136

Discovery:

Levels of Angiopoietin-2 rise rapidly and in a dose-dependent fashion within 2 hrs after exposure to the Anthrax pathogen .

Background:

With the ongoing threat of bioterrorism, there is a need for rapid detection of Anthrax to protect our military personnel as well as civilians (as evidenced by the bioterrorism-related outbreak in 2001). Early identification of the highly infectious Anthrax is critical for determining quarantine and treatment decisions.

Mortality from anthrax exposure arises from complications related to vascular injury. Angiopoietins (Ang) are secreted proteins that regulate vascular permeability. In particular, elevated levels of Ang-2 are associated with inflammation and vascular leak.

Stage of Development:

➤ Early stage discovery in baboon models

Next Steps:

- Development of rapid assays for Ang-2 blood levels
- Pre-clinical studies of Ang-2 therapies

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Commercial Uses:

- Rapid diagnosis of systemic Anthrax (and possibly other hemorrhagic infections such as Dengue, Ebola , Marburg or Hanta)
- Staging of disease severity
- Therapy by blockading Ang-2 function

Patent / Licensing Status:

- US Provisional Patent Filed
- Opportunities for Licensing Available
- Seeking Sponsored Research or other Commercialization Partnership

Lead Investigator:

[Samir Parikh, MD](#)
Instructor in Medicine/Nephrology

Competitive Advantages:

- ✓ Minimally invasive blood tests are key to making rapid analysis/decisions especially in a combat setting where X-rays and blood cultures are not easily performed.