Decreasing Neutrophil Extracellular Traps (NETs) by administering a deglycosylated KKO antibody

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Technology description

Treating Sepsis with the Heparin-induced Thrombocytopenia-like Monoclonal Antibody KKO
Decreasing Neutrophil Extracellular Traps (NETs) by administering a deglycosylated KKO antibody

Market Need
Sepsis is the body’ s overwhelming and life-threatening response to infection that can lead to tissue damage, organ failure, and death. It is the 10th-leading cause of death in the United States. Annual economic burden is estimated at $16.7 billion. However, sepsis is treatable if it is identified and treated quickly.

Technology Overview
The Poncz lab demonstrated that a modified heparin-induced thrombocytopenia-like monoclonal antibody - KKO improved survival in a mouse model of sepsis. In sepsis and related inflammatory disorders, neutrophils release their histone-coated DNA termed neutrophil extracellular traps or NETs. These fluffy/stringy NETs are broken down and release NET degradation products (NDPs) like histone that are toxic and contribute to the morbidity and mortality in sepsis. The KKO antibody binds Platelet Factor 4 on NETs to protect against lysis and NDP release. The KKO Ab is deglycosylated to decrease the potential to activate inflammatory response.

Application area

• Therapeutics to prevent sepsis and other autoimmunue diseases

Advantages

• Specifically addresses a process known to be involved in sepsis
• Can potentially be applied to other inflammatory conditions

Institution

The Children's Hospital of Philadelphia

Inventors

Kandace Gollomp
Instructor
Pediatrics
Mortimer Poncz
Physician
Hematology
Lubica Rauova
Research Associate Professor
Pediatrics
Maria Anna Kowalska