The Centre for Blood Research Seminar Series

Wednesday, January 29, 2020

LSC 3 | 1:00 - 2:00PM

Dr. Lubica Rauova

Research Associate Professor of Pediatrics,
University of Pennsylvania School of Medicine

"Heparin induced thrombocytopenia – therapeutic strategies alternative to anticoagulation."

Heparin-induced thrombocytopenia (HIT) is a highly prothrombotic, antibody-mediated disorder that develops during anticoagulation therapy in ~1% of adults exposed to therapeutic doses of unfractionated heparin. HIT antibodies form against complexes of heparin and the platelet-specific chemokine, platelet factor 4 (PF4, CXCL4), which is released in high concentrations at sites of platelet activation. Thrombosis has been attributed to the ability of HIT antibodies to activate platelets through the FcgRIIA receptor. However, HIT antibodies also recognize PF4 bound to surface glycosaminoglycans present on many cell types, including platelets, monocytes, endothelial cells, and neutrophils, or polyanions released from activated cells, such as polyphosphates, von Willebrand factor or DNA. Consequently, concurrent activation of multiple cell types underlies the propensity for thrombosis in HIT. PF4 is almost unique in its propensity to form an autoantigen because of its disposition to assemble multiple tetramers on a polyanion template, forming ultra-large immune complexes (ULICs). Disruption of ULIC to prevent binding of HIT antibodies or modification of the ability of the antibodies to activate vascular cells are possible novel therapeutic strategies with fewer hemorrhagic complications.

Live Online Seminar Viewing:
https://tinyurl.com/CBR-Seminar-2020

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