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Thrombotic thrombocytopenic purpura: Disease pathogenesis, laboratory monitoring and current treatment strategies

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Abstract

Idiopathic thrombotic thrombocytopenic purpura (TTP) is a rare and potentially fatal disease that is due to platelet-von Willebrand Factor microthrombi in the circulation. The discovery of ADAMTS13, its role in cleaving unusually-large von Willebrand Factor multimers, and the detection of autoantibodies directed against this essential enzyme have reinforced the important roles of plasmapheresis and immunosuppression in patients with this critical illness. TTP disease pathogenesis, routine and novel laboratory markers for diagnosing and following patients with TTP, and up-to-date treatment strategies will be covered in this lecture.

Biography

Dr. Jay S. Raval received his undergraduate and medical degrees from the University of North Carolina at Chapel Hill, during which time he was a Howard Holderness Distinguished Medical Research Scholar. He trained at the University of Pittsburgh where he completed a surgical internship followed by residency training in clinical pathology. He went on to complete blood banking/transfusion medicine fellowship training in the joint program between the University of Pittsburgh and The Institute for Transfusion Medicine. During this time, he developed an interest in therapeutic hemapheresis and hematopoietic progenitor stem cell collection and processing. Dr. Raval stayed on as faculty at the University of Pittsburgh and The Institute for Transfusion Medicine for one year before joining the Department of Pathology and Laboratory Medicine at the University of North Carolina at Chapel Hill, where he is the Medical Director of Therapeutic Apheresis. He has published over 20 peer reviewed articles, authored two book chapters, and is on the editorial board of three journals. His research interests include: thrombotic thrombocytopenic purpura; red blood cell storage lesion; evidence-based therapeutic apheresis and transfusion medicine practices; synthetic oxygen carrier development; extracorporeal photopheresis in transplantation; hematopoietic progenitor stem cell collection and processing; pathology education; pathology informatics.