

## **Fibrin Clot Structure and Properties are Altered in Systemic Lupus Erythematosus**

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### **Abstract**

© 2016, Springer Science+Business Media New York. Thrombotic complications in systemic lupus erythematosus contribute significantly to the morbidity and mortality rates. Abnormal formation and structure of fibrin clots add substantially to hypercoagulability and thrombosis. We used dynamic turbidimetry to assess in vitro the kinetics of fibrin polymerization and t-P-induced fibrinolysis in recalcified plasma of patients with systemic lupus erythematosus compared to healthy subjects. Fibrin structure was studied using scanning electron microscopy. Clots from the pathological plasma samples polymerized significantly slower, resulting in formation of fibrin with a higher optical density and less compact fibrin networks with larger pores. These changes were associated with a prolonged clot lysis time and reduced lysis rate. The results show that in the blood of patients with systemic lupus erythematosus fibrin clots have a pro-thrombotic phenotype that comprises an important mechanism underlying lupus-related thrombophilia.

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### **Keywords**

Fibrin, Fibrinolysis, Scanning electron microscopy, Systemic lupus erythematosus