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Activation of circulated immune cells and inflammatory immune adherence are involved in the whole process of acute venous thrombosis

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To investigate localization and distribution of integrin subunit $\beta 1$, $\beta 2$ and $\beta 3$ and morphological changes of ligand-receptor binding in thrombi of acute pulmonary embolism (PE) patients and explore activation of circulated immune cells, inflammatory immune adherence and coagulation response in acute venous thrombosis. In this study, it was found: 1) Acute venous thrombi were red thrombi composed of skeletons and filamentous mesh containing large amounts of red blood cells and white blood cells; 2) Integrin subunit $\beta 1$, $\beta 2$ and $\beta 3$ were expressed on lymphocytes, neutrophils and platelets; 3) No expression of integrin $\beta 1$ ligands: Laminin, Fibronectin, Collagen I or Collagen-II on lymphocytes; integrin $\beta 2$ ligands including ICAM, factor X and iC3b are distributed on neutrophils, and ligand fibrinogen bound to neutrophils; integrin $\beta 3$ was expressed on platelets which form the skeleton of thrombi and bound to fibrinogen to construct mesh structure; 4) Factor Xa was expressed on the filamentous mesh; 5) Filamentous mesh was fully filled with red blood cell dominant blood cells. So, it can be concluded that acute venous thrombosis is an activation process of circulated lymphocytes, neutrophils and platelets mainly, and a whole process including integrin subunit $\beta 2$ and $\beta 3$ binding with their ligands. Activation of immune cells, inflammatory immune adherence and coagulation response are involved in the acute venous thrombosis.

Biography

Fan Yang has graduated from Dong Nan University School of Medicine. He is the Deputy Director of Clinic Laboratory in Tong Ji Hospital which belongs to Tong Ji University School of Medicine. He has published more than 20 papers in reputed journals and has been studying for over 15 years in clinical immunology.

Qiang Lin Duan has graduated from Tong Ji University School of Medicine. He is a doctor of department of cardiology in Tong Ji Hospital which belongs to Tong Ji University School of Medicine. He has published more than 20 papers in reputed journals and has been studying for more than 5 years in the project of new strategies in prevention and treatment of venous thromboembolism.

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