

Contraction (Retraction) of blood clots in patients with ischemic stroke

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Abstract

© 2016, Media Sphera. All rights reserved. Objective: To study a possible pathogenetic role of the blood clot contraction and its disturbances in the acute stage of ischemic stroke (IS). Material and methods: Using a new instrumental technique to study the dynamics of clot contraction in vitro, the authors have determined quantitative parameters of clot contraction (the extent and rate of contraction, duration of the lag-period) in the blood of 85 patients with acute IS. Results and Conclusion: The contractile activity of blood clots was substantially reduced compared to the blood of healthy subjects. Correlations between hemostatic and contractile parameters suggest that the reduced clot contraction in stroke is due to the lower platelet count and impaired platelet functionality, higher levels of fibrinogen and antithrombin III as well as higher hematocrit and hemoglobin contents, leukocytosis, and changes in the biochemical blood composition. The results show that the reduced ability of clots may be a novel pathogenic mechanism that aggravates the course and outcomes of IS.

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Keywords

Clot contraction, Clot retraction, Fibrillation, Ischemic stroke