

Evolution of plasma D-dimer and fibrinogen in witnessed onset of paroxysmal atrial fibrillation

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摘要

Abstract

Background: Although increased D-dimer and fibrinogen have been proved to be related with atrial fibrillation (AF), their evolution in the course of time remains unclear. Methods: To elucidate the evolution of plasma D-dimer and fibrinogen in AF of different duration. 56 patients (group A) of 3,524 patients in whom the onset of AF had been witnessed in a chest pain clinic were enrolled for study. Plasma D-dimer and fibrinogen concentrations were checked within 30 min after the onset of AF and followed up as scheduled. Another 50 patients (group B) with chronic AF underwent the same protocol and served as controls. Results: In group A, the D-dimer levels reached a plateau at the 18th hour (382 ± 52 vs. 840 ± 280 ng/ml, $p < 0.001$ by ANOVA) and the fibrinogen level increased gradually from 4.1 ± 0.6 g/ml at baseline to 6.1 ± 0.9 g/ml at the 48th hour ($p < 0.001$). No subjects had evidence of intra-cardiac thrombi by transesophageal echocardiography. There were significant differences in plasma D-dimer and fibrinogen levels between the two groups at each measurement. At the cut-off value of 500 ng/ml, plasma D-dimer had a sensitivity of 100%, a specificity of 93% in defining AF lasting for less than 12 h. The positive and negative predictive values were 52% and 100%, respectively. Plasma D-dimer increased above the normal range prior to the 12th hour after the onset of AF. Conclusion: The observations support its use as a screening tool for identifying patients with short duration AF capable of being safely converted.