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Hubungan kadar soluble intercellular adhesion molecule-1 dan soluble vascular cell adhesion molecule- 1 dengan gradasi trombosis atrium kiri pada stenosis mitral = Association between soluble intercellular adhesion molecule-1 and soluble vascular cell adhesion molecule-1 levels and left atrial thrombosis gradation in mitral stenosis

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Abstrak

Latar belakang. Hubungan antara inflamasi dan koagulasi telah banyak dijelaskan, dimana molekul adhesi memiliki peranan penting dalam inflamasi. Soluble intercellular adhesion molecule-1 (sICAM-1) dan soluble vascular cell adhesion molecule-1 (sVCAM-1) tampak berkaitan dengan trombosis pada beberapa penelitian sebelumnya. Molekul-molekul tersebut meningkat pada stenosis mitral (SM) namun bagaimana hubungannya dengan derajat trombosis atrium kiri belum diketahui.
Metode. Pasien SM derajat sedang-berat (tanpa adanya regurgitasi mitral signifikan) yang menjalani pemeriksan ekokardiografi transesofageal diikutsertakan secara konsekutif sejak September-Oktober 2013. Penilaian gradasi trombosis atrium kiri dilakukan untuk mengkategorikan mereka menjadi kelompok non-trombus dengan left atrial spontaneous echo contrast (LASEC) tebal, dan kelompok non-trombus tanpa LASEC tebal, dan kelompok trombus. Kadar sICAM-1 dan sVCAM-1 dari vena perifer diukur dengan teknik enzymelinked immunosorbent assay.
Hasil. Sebanyak 39 subyek penelitian dengan rerata usia 40,97±9,61 tahun, 71,8% berjenis kelamin perempuan, dan 67,7% memiliki irama fibrilasi atrium. Evaluasi terhadap gradasi trombosis atrium kiri (kelompok non-trombus tanpa LASEC tebal, kelompok non-trombus dengan LASEC tebal, dan kelompok trombus) menunjukkan kadar sICAM-1 sebesar 284,74 (218,79-321) ng/mL, 346,86 (125,68-698,12) ng/mL, dan 395,93 (171,44-1021,53) ng/mL secara berurutan (p=0,280). Kadar sVCAM-1 pada 3 kelompok tersebut sebesar 729,01 (543,93-967,8) ng/mL, 1066 (581,36-2470,6) ng/mL, dan 1158 (668,66-2498,3) ng/mL secara berurutan (p=0,016). Analisis multivariat menunjukkan fibrilasi atrium dan area katup mitral yang mempengaruhi gradasi trombosis.
Kesimpulan. Terdapat perbedaan kadar sVCAM-1 pada kelompok menurut gradasi trombosis atrium kiri pada SM, namun pengaruh sVCAM-1 terhadap gradasi trombosis atrium kiri dipengaruhi oleh fibrilasi atrium dan area katup mitral.
.....Background. The relationship between inflammation and coagulation has been widely described while adhesion molecules takes important role in inflammation. Soluble intercellular adhesion molecule-1 (sICAM-1) and soluble vascular cell adhesion molecule-1 (sVCAM-1) seemed to be related to thrombosis in previous studies. Those molecules increase in mitral stenosis (MS) but their relationship with left atrial thrombosis gradation is still unknown.
Methods. Patients with moderate-severe MS (without any significant mitral regurgitation) who underwent transesophageal echocardiography were recruited consecutively in September-October 2013. They were divided into three categories of left atrial thrombosis gradation: non-thrombus without dense LASEC group, non-thrombus with dense LASEC group, and thrombus group. sICAM-1 and sVCAM-1 levels in peripheral vein were determined by enzymelinked immunosorbent assay technique.

Results. A total of 39 subjects were enrolled in this study with a mean age of 40,97±9,61 year, 71,8% of them were female, and 67,7% of them had atrial fibrillation. Evaluation on left atrial thrombosis gradation (non-thrombus with dense LASEC group, non-thrombus without dense LASEC group, and thrombus group) showed that sICAM-1 levels were 284,74 (218,79-321) ng/mL, 346,86 (125,68-698,12) ng/mL, and 395,93 (171,44-1021,53) ng/mL, cosecutively (p=0,280). sVCAM-1 levels were 729,01(543,93-967,8) ng/mL, 1066 (581,36-2470,6) ng/mL, and 1158 (668,66-2498,3) ng/mL, consecutively (p=0,016). Multivariate analysis showed that AF and MVA influence thrombosis gradation.
Conclusion. Difference in sVCAM-1 levels was found among left atrial thrombosis gradation groups in mitral stenosis, but its effect on thrombosis gradation was influenced by atrial fibrillation and mitral valve area.