Pengaruh tingkat keparahan stenosis mitral terhadap kadar soluble vascular cell adhesion molecule 1 dan soluble intercellular adhesion molecule 1 = Effect of mitral stenosis severity on circulating vascular cell adhesion molecule 1 and intercellular adhesion molecule 1

Pramono Sigit, author

Abstrak

Latar Belakang: Kadar Soluble Vascular Cell Adhesion Molecule-1 (sVCAM-1) dan Soluble Intercellular Adhesion Molecule-1 (sICAM-1) diketahui meningkat pada pasien dengan stenosis mitral (SM). Namun, apakah kenaikan tersebut disebabkan oleh proses reumatik yang aktif ataukah karena pengaruh hemodinamik SM masih belum diketahui dengan jelas.
Tujuan: Meneliti pengaruh tingkat keparahan SM pada kadar sVCAM-1 dan sICAM-1
Metode: Penelitian ini berdesain potong lintang. Subjek penelitian dibagi menjadi tiga kelompok, yaitu kelompok kontrol normal, kelompok pasien yang akan menjalani Komisurotomi Mitral Transvena Perkutan (kelompok pre KMTP), dan kelompok pasca KMTP 1 tahun. Dilakukan pemeriksaan kadar sVCAM-1 dan sICAM-1 pada ketiga kelompok tersebut, dan pemeriksaan ekokardiografi untuk menilai tingkat keparahan katup mitral (Mitral Valve Area (MVA) mean Mitral Valve Gradient (mMVG), Tricuspid Valve Gradient (TVG), mean Pulmonary Artery Pressure (mPAP) dan Left Atrial Volume Index (LAVI)) pada kelompok pre KMTP dan kelompok pasca KMTP 1 tahun.
Hasil: Didapatkan 23 orang kontrol normal, 26 pasien kelompok pre KMTP, dan 27 pasien kelompok pasca KMTP 1 tahun.. Kadar sVCAM-1 dan sICAM-1 pada kelompok pasien dengan SM (kelompok pre dan pasca KMTP 1 tahun) lebih tinggi dibandingkan dengan kontrol normal (536,87 ± 251,68 ng/ml vs 536,87 ± 149,22 ng/ml; p<0,001 dan 270,04 ± 111,67 ng/ml vs 216,43 ± 50,60 ng/ml; p=0,006). Namun tidak didapatkan perbedaan kadar sVCAM-1 dan sICAM-1 antara kelompok pre KMTP dengan kelompok pasca KMTP 1 tahun (854,67 ± 227,26 ng/ml vs 809,22 ± 275,63 ng/ml; p=0,515 dan 279,98 ± 114,39 ng/ml vs 260,49 ± 110,38 ng/ml; p=0,539) . Tidak didapatkan hubungan antara tingkat keparahan katup mitral (MVA, mMVG, TVG, mPAP dan LAVI) dengan kadar sVCAM-1 dan sICAM-1 (p>0,05).
Kesimpulan: Tidak terdapat hubungan antar tingkat keparahan katup mitral dengan kadar kadar sVCAM-1 dan sICAM-1
.....Background: Blood Soluble Vascular Cell Adhesion Molecule-1 (sVCAM-1) and Soluble Intercellular Adhesion Molecule-1 (sICAM-1) levels are increased in Mitral Stenosis (MS) patients, but whether this phenomenon is due to chronic rheumatic inflammation process or because of hemodynamic effect of mitral stenosis severity is not clear yet.
Objective: This research aims to study the effect of mitral stenosis severity on blood sVCAM-1 and sICAM-1 levels.
Method: This study is a cross sectional study. Research subjects were divided into 3 groups: control patients, pre BMV (Baloon Mitral Valvulotomy) group, and post BMV group (patients who have already undergone BMV for 1year). Blood sVCAM-1 and sICAM-1 were measured using quantitative sandwich immunoassay method in all groups, and echocardiographic study to evaluate MS severity (MVA (Mitral Valve Area), mMVG (mean Mitral Valve gradient), TVG (Tricuspid Valve Gradient), mPAP (mean Pulmonary Artery

Pressure), and LAVI (Left Atrial Volume Index) measurements were performed to pre BMV and post BMV group at the same day with the blood sample collections.
Results: There were 23 normal subjects, 26 patients in pre BMV group, and 27 patients in post BMV group. The sVCAM-1 and sICAM-1 levels in patients with MS (pre BMV and post BMV group) were higher than normal control subjects (536,87 ± 251,68 ng/ml vs 536,87 ± 149,22 ng/ml; p<0,001 and 270,04 ± 111,67 ng/ml vs 216,43 ± 50,60 ng/ml; p=0,006), meanwhile there were no differences of sVCAM-1 and sICAM-1 levels between pre BMV and post BMV group (854,67 ± 227,26 ng/ml vs 809,22 ± 275,63 ng/ml; p=0,515 dan 279,98 ± 114,39 ng/ml vs 260,49 ± 110,38 ng/ml; p=0,539). There were also no significant correlation between mitral stenosis severity (MVA, mMVG, TVG, mPAP dan LAVI) with sVCAM-1 and sICAM-1 levels (p>0,05).
Conclusion: There were no correlation between mitral stenosis severity with blood sVCAM-1 and sICAM-1 levels.