Circulating Endothelial Cells and Platelet Microparticles in Mitral Valve Disease With and Without Atrial Fibrillation

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Abstract:

Hypercoagulability in mitral valve disease (MVD), a cause of atrial fibrillation (AF) and stroke, is potentially due to endothelial damage/dysfunction (marked by circulating endothelial cells [CECs]), platelet activation (soluble P-selectin [sPsel], platelet microparticles [PMPs], and soluble CD40 [sCD40]), and oxidized low-density lipoprotein (oxLDL) cholesterol. We measured these variables in 24 patients with MVD as well as in 21 with MVD þ AF and compared them with 20 healthy controls (HCs). The CECs and PMPs were measured by flow cytometry; sPsel, oxLDL, and CD40 by enzyme-linked immunosorbent assay. Compared with HCs, sPsel and PMPs were equally higher in MVD and MVD þ AF; sCD40 and oxLDL were higher in MVD þ AF than in HCs and MVD; and CECs were higher in MVD than in the HCs, with further increases in MVD þ AF (all P

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