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UPREGULATION OF CD40/CD40L SYSTEM IN RHEUMATIC MITRAL STENOSIS WITH OR WITHOUT ATRIAL FIBRILLATION

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Platelet activation occurs in peripheral blood of patients with rheumatic mitral stenosis (MS) and atrial fibrillation (AF) and could be related to abnormal thrombogenesis. The CD40/CD40 ligand (CD40L) which reflects platelet activation, mediate a central role in thrombotic diseases. However, the role of CD40/CD40L system in rheumatic MS with or without AF remains unclear. Expressions of CD40 on monocytes and CD40L on platelets were determined by whole blood flow cytometry and serum levels of soluble CD40L were measured by enzyme-linked immunosorbent assay in group 1 (19 patients with MS) and group 2 (20 patients with MS and AF) compared to group 3 (10 controls). Patients with groups 1 and 2 had a significant increase in expression of CD40 on monocytes (P1 and P2=0.000) and serum levels of sCD40L (P1=0.014 and P2=0.033, respectively), but non-significant increase in expression of CD40L on platelets (P1=0.109 and P2=0.060, respectively) as compared to controls. There were no significant difference in all the parameters in group 1 compared to group 2. Correlation analysis demonstrated that there was a significant direct relationship between the severity of MS and serum levels of sCD40L (r=-0.469, p=0.043). In conclusion, rheumatic MS patients with or without AF had upregulation of the CD40/CD40L system as well as elevated sCD40L levels. The levels of sCD40L had a significantly direct relationship with the severity of MS and it was the stenotic mitral valve, not AF that had a significant impact on platelet activation.

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