

Editorial

Platelets in Rheumatic Mitral Stenosis

Jyotsna Maddury¹

¹Department of Cardiology, Nizam's Institute of Medical Sciences, Hyderabad, India

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Rheumatic mitral stenosis (MS) predisposes to thrombus formation in the left atrium (LA) and left atrial appendage (LAA) due to relative stagnation of blood as it finds difficulty to pass through the narrowed mitral orifice. There are studies on morphologic changes in platelets either as the cause or effect of MS in production of LA/LAA thrombus. In 2009, Varol et al and Yavuz et al showed that mean platelet volume (MPV) increased in MS even in sinus rhythm.^{1,2}

Belen et al assumed rheumatic carditis-induced mitral valve disease to be a chronic inflammatory process. So they observed the platelet-to-lymphocyte ratio (PLR) in MS patients.³ In patients with LA thrombus, higher MPV and platelet count and lower lymphocyte count were detected. PLR was significantly higher in patients with thrombus than in those without (133 ± 38 vs. 119 ± 31 , $p = 0.001$).

Murugesan et al showed that the procoagulant condition (which means significant increase in fibrinogen, homocysteine, and platelet aggregation) was prevalent in subgroup of patient of MS with thrombus.⁴ Akpek et al showed that cheaper tests such as MPV and platelet crit are associated with thrombus in MS patient.⁵ Microparticle concentration increment that suggests that the platelet activation was shown in peripheral blood by Azzam and Zagloul.⁶

Hasan-Ali and Mosad and Erdogan et al demonstrated that not only there was an increase in inflammatory, platelet, thrombin, and fibrinolytic activities, but also that these parameters decreased after mitral valvotomy.^{7,8}

In this issue Shraavan et al also reported that morphologic changes in the platelets are more when there is thrombus in the LA/LAA.⁹ In addition to MPV, they studied platelet distribution width (PDW) also. Wider PDW means more abnormal-size platelets, either large or small size, may be there. However, PDW associated with increased MPV means that bigger size abnormal platelets are there in MS patients. This study may be important one as it was a pilot study on PDW in MS with thrombus. However, in this, the authors did not study whether these abnormally big platelets are functioning normally or abnormally.

I think further research on morphofunctional studies of platelets are required in these MS patients, as this increases the morbidity by 10-fold in thromboembolic risk.

Conflict of Interest

None.

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Address for correspondence Jyotsna Maddury, MD, DM, FACC, FESC, FICC, Department of Cardiology, Nizam's Institute of Medical Sciences, Punjagutta 500082, Hyderabad, Telangana, India
(e-mail: mail2jyotsna@rediffmail.com).

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