
Thrombus formation during septal puncture

To the Editor,

We deeply appreciate Bilge et al. (1) for this study published in September 2014 issue of The Anatolian Journal of Cardiology entitled "Left atrial spontaneous echo contrast and thrombus formation at septal puncture during percutaneous mitral valve repair with the MitraClip system of severe mitral regurgitation: a report of two cases." It was reported in both cases that activated clotting time (ACT) of patients were higher than 250 s; however, it was not emphasized whether unfractionated heparin (UFH) was administered before or after septostomy. This issue is important in patients, particularly with atrial fibrillation (AF) due to risk of thrombus formation. We have reported a case of mitral stenosis and AF who was administered UFH after septostomy and developed thrombus right after trauma of puncture of interatrial

septum during percutaneous mitral balloon valvuloplasty (PMBV) (2). We attributed the thrombus formation to the damage to interatrial septum during septostomy and no anticoagulation with UFH before septostomy in patients with AF. Despite severe mitral regurgitation (MR) reducing left atrial spontaneous echo contrast (LASEC) and thrombus formation in left atrium due to jet flow (3), we considered that reduced MR by MitraClip does not have an influence on thrombus formation, at least, in acute period in these cases. Patients with AF who were not anticoagulated until septostomy may develop LASEC and thrombus by virtue of mechanical trauma during septostomy. There is a case report in literature regarding a patient without AF having developed large thrombus in left atrial posterolateral wall after 5 days of MitraClip procedure because the patient was not administered UFH (4). We consider that mechanical trauma and possibly lack of anticoagulation before septostomy may have resulted in thrombus formation in the region of septal puncture as Bilge et al. (1) stated.

Administration of UFH during septostomy in PMBV procedure, as in MitraClip procedure, is an increasingly debated issue. Application of UFH at the beginning of PMBV procedure diminishes embolic complications; meanwhile, it is associated with increased risk of bleeding and length of hospital stay. However, cases that developed thrombus following UFH administration after septostomy have also been observed (5).

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