

Percutaneous Transapical Closure of Cardiac Apex and Mitral Prosthetic Paravalvular Leak is Feasible and Alternative Approach to the Surgery

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Dear Editor,

Surgical closure is associated with increased morbidity and mortality because of the reoperation in patients with paravalvular leak. Catheter-based closure of a paravalvular leak as a possible alternative to the conventional operation should be reserved for older and sicker patients because of higher incidence of mild/moderate paravalvular leak after the procedure. As an alternative therapy, transcatheter closure has been developed for paravalvular leak following surgical mitral valve replacement with reasonable, safe and feasible results [1-5].

There are several ways for the percutaneous transcatheter closure of mitral paravalvular leak like as transseptal, transapical and transaortic (for snaring) approaches. When the transseptal approach is failed or transaortic way is failed to snare, transapical way may be used. The apical access is traditionally performed through a left minithoracotomy or percutaneous puncture with a needle at the fifth intercostal space under general anesthesia. Especially apical approach with a needle is feasible, comfortable and safely way for the elder patients with very high risk for surgery. In addition, there are some case reports of successful closure of the transseptal mitral paravalvular leak with left atrial to left ventricular loop technique via transapical snaring. Recently, there are also reported cases of percutaneous apical closure of cardiac apex with percutaneous devices [6-13]. Apical puncture of the left ventricle can be done with the guidance of fluoroscopic and computed tomographic angiography. When transseptal attempt failed, the transapical approach for mitral valve interventions can be done with either left minithoracotomy or percutaneous apical puncture. During the transseptal procedure, when the defect was not passed or delivery system was not advanced to the LA through the wire, the transaortic approach is used to catch the wire. It may be preferred to use the transapical approach and make a loop with left atrial and left ventricular through the mitral paravalvular leak.

In conclusion, before the patient referred to the surgery, every percutaneous alternative closure ways and techniques should be tried especially elder and high risky patients.

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