

A New Valve Retractor for Mitral Valve Procedures

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ABSTRACT Optimal exposure greatly facilitates reconstructive mitral valve procedures. We describe an effective method for exposing this valve using a specially designed mitral valve retractor. This technique proved useful in 321 patients who underwent operation on the mitral valve.

Although the technique of closed mitral commissurotomy was described by Bailey [1] in 1949, most surgeons currently prefer an open operation to directly expose and repair a stenotic mitral valve. Lillehei and co-workers [6] reported in 1957 a technique of mitral valve annuloplasty for repair of an incompetent mitral valve. Subsequently, Merendino and associates [7] introduced the posteromedial annuloplasty, Wooler and associates [11] the bicommissural annuloplasty, and Reed and co-workers [9] the concept of the asymmetric annuloplasty. More recently, this problem has been treated by plication of a larger segment or of the complete mitral valve annulus [2-4].

Further experience with mitral valve operations has shown that the proper decision regarding mitral valve replacement or the use of a reconstructive procedure is based on several factors: (1) complete visualization of the mitral valve annulus, leaflets, chordae, and papillary muscles; (2) better understanding of valve function; and (3) estimation of the adequacy of potential repair based on the degree of involvement of the individual valve [5, 8, 10]. Optimal exposure of the mitral valve leaflets

and subvalvular apparatus greatly facilitates the decision-making process and the implementation of reparative procedures. We believe improved exposure is achieved by the use of a specially designed mitral valve retractor (Figure).*

Technique

The left atrium is opened on the right side and retracted. The tip of the closed mitral valve retractor is positioned in the valve orifice and gently opened to tense both the anterior and posterior leaflets of the mitral valve. The hooks on the tip of the retractor allow elevation of the mitral valve leaflets into the left atrium. This facilitates accurate evaluation of the commissures, leaflets, valve annulus, and the subvalvular apparatus. The retractor is held in the surgeon's left hand, freeing the right hand to perform most of the maneuvers required for plastic reconstruction of the mitral valve. The handle of the retractor is calibrated to permit measurement of the valve orifice. This is useful after commissurotomy and papillotomy, and for determining the final diameter of the valve annulus following annuloplasty.

Comment

This technique proved effective during mitral valve procedures in 321 patients. In 205 with mitral stenosis, commissurotomy and papillotomy were accomplished. In 107 patients, the retractor aided in the decision to replace the mitral valve, and in 9 patients it helped in the performance of more complex plastic procedures. In each instance, the retractor allowed increased visualization of the subvalvular apparatus, leaflets, and annulus, and thereby facilitated repair. We believe the device is a

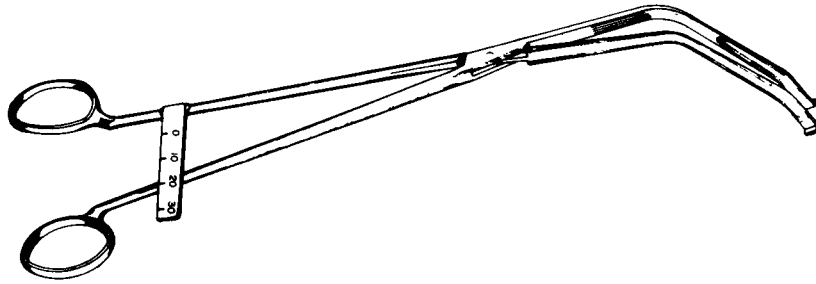
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We are indebted to Mr. Paul Gerhard Feeburg for the artwork, to Mrs. Mara Regina Feeburg for editorial assistance, and to Dr. Albert Pacifico for reviewing the manuscript.

Accepted for publication Feb 5, 1979.

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*Codman & Shurtleff, Inc., Randolph, MA; catalogue number 25-8014.



Mitral valve retractor.

safe, reliable, and helpful adjunct to mitral valve operation.

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