

Commentary: To see with eyes unclouded



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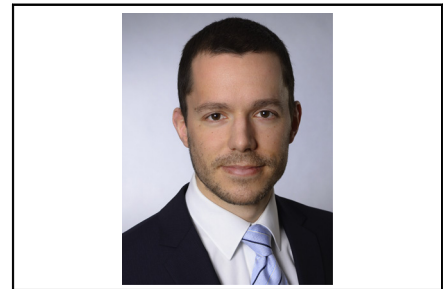
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Double orifice mitral valve (DOMV) can be found in approximately 1% of all patients with congenital heart disease and commonly occurs in association with other cardiovascular malformations.¹ If not resulting in relevant regurgitation or stenosis, the malformation can go unnoticed and may be found incidentally. However, severe valvar dysfunction can bear a significant challenge for surgical repair, and a clear understanding of the underlying pathology and valvar structure is necessary to achieve good results. In this issue of the *Journal*, Takeshita and colleagues² report a case of a 20-year-old patient with DOMV who presented with severe mitral valve regurgitation and signs of heart failure. Their unusual surgical approach comprised implantation of a mitral ring, cleft closure, commissuroplasties, and division of the bridging tissue. After a follow-up of 12 years, the surgical result is excellent, showing only mild regurgitation on echocardiography.

Despite scattered reports of successful surgical division of the bridging tissue, division is commonly considered inadvisable because of the risk of generating flail leaflets with regurgitation that is difficult to eliminate.³ However, this is not completely true and belies the complexity of the spectrum of DOMV. The developmental origin of DOMV is unclear, but it has been suggested that DOMV is a result of dysfunctional delamination affecting not only the valve tissue but also the subvalvular apparatus.¹ The classic form of DOMV, characterized by a large orifice and a smaller accessory orifice, is associated with abnormal chordal distribution, chordal rings, and structurally disproportionate papillary muscles.¹ In contrast, DOMV can also present with 2 orifices that are approximately equal in size, separated by fibrous tissue. Cleft closure in the setting of DOMV has also been discussed controversially, as outlined by Macé and colleagues.⁴ The papillary muscle configuration in classic DOMV is at risk of generating a parachute-like obstruction with cleft closure or extensive annuloplasties.

It is therefore essential to inspect and interpret DOMV in the context of the subvalvular morphology. The presented



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Central Message

Division of bridging tissue in double orifice mitral valve is considered inadvisable, but if the morphology is interpreted correctly, cases can be identified that benefit from this approach.

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case seems to be quite favorable for surgical division of the bridging tissue and subsequent cleft closure. Both orifices are equal in size, chordae seem well distributed, and the chordal configuration appears to support the resulting free edge of the fibrous bridge. This is different to other DOMV variants in which division of the bridge inadvertently leads to disruption of the chordal arrangement and the geometry of the subvalvular apparatus, leaving the bridging tissue without chordal support.

Takeshita and colleagues² must be congratulated for the excellent surgical result and for their structured and rational approach. It is also of great value to see case reports that go beyond the factual description of the surgical approach and add echocardiographic outcome years after surgery. Most importantly, the present case highlights how crucial adequate intraoperative assessment and interpretation are to achieve optimal outcome. It also exemplifies that we should keep an open mind to use less conventional surgical strategies if appropriate.

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