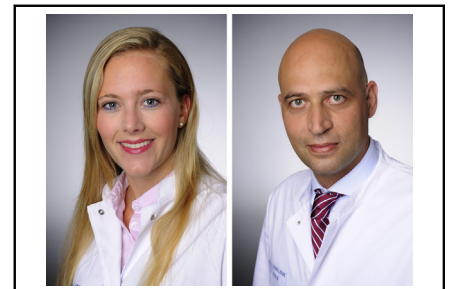


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Commentary: Mitral valve repair using adjustable posterior leaflet neochords

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During past years, there has been a tremendous advancement in mitral valve repair techniques with special focus on minimally invasive strategies.^{1,2} The surgical “resect” approach for degenerative mitral valve diseases of the posterior or anterior leaflet was for many decades the gold standard therapy, including the classic quadrangular or triangular resections.³ Despite the good surgical results of these resection techniques, several concerns exist in terms of long-term valve competence and altered ventricular function.⁴ Several studies documented that posterior leaflet resection results in decreased posterior leaflet mobility, coaptation length, and increased posterior leaflet stress when compared with the nonresectional neochord technique.⁵⁻⁷ In a recently published meta-analysis, implantation of neochords improved left-sided long-term ventricular function,⁸ but this did not reach statistical significance in a randomized controlled trial.⁹ On the other side, implantation of neochords is quite challenging, even for skilled surgeons. Consequently, current guidelines are still quite ambiguous toward the optimal repair approach.¹⁰

This case series by Sotolongo and colleagues, published in this issue of the *Journal*, demonstrates a novel, reproducible, and easy technique of mitral valve repair using adjustable posterior leaflet neochords with excellent short-term

CENTRAL MESSAGE

This case series demonstrates a novel, reproducible, and straightforward technique for minimally invasive mitral valve repair using adjustable neochords with excellent short-term results.

results.¹¹ In contrast to the traditional loop technique, where static lengths of neochords are chosen after measurements with or without a caliper, the introduced technique enables a flexible and reproducible adjustment of length by the surgeon. As depicted in the Central Picture of their report, the looped neochords are secured behind the mitral annulus and on the left atrial side. Thus, final visual correction of leaflet prolapse and valve incompetence can be performed safely after annuloplasty during pressurization of the left ventricle with saline. Although several neochord implantation techniques have been described in the literature before, the strength of the introduced technique lies in its reproducible, straightforward fashion that makes it suitable for minimally invasive approaches. Furthermore, the group from Yale report in their surgical experience of this small case series excellent short-term echocardiographic and clinical results that support the preliminary safety and efficacy of this approach. Nonetheless, long-term results and larger cohorts are needed to allow a final interpretation of the adjustable chord technique.

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