Commentary: We can do it, but do we need to?

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Grinberg and colleagues 1 present dynamic NeoChord (NeoChord Inc, St Louis Park, Minn) tension data from 7 human patients undergoing mitral repair with the NeoChord procedure. 2 The authors conclude that the tension applied on chordae during transapical implantation of NeoChords for degenerative mitral regurgitation can be measured, providing original data about the objective consequences of mitral repair on the mitral apparatus.

Several aspects of this study are new and unique. The dynamic measurement of NeoChord tension in a beating human heart is new. Also new is the demonstration that total NeoChord tension falls when valve competence and leaflet co-optation are obtained. The authors suggest that this reduction in total tension in the competent versus the incompetent valve could result from the funneling effect of blood toward the incompetent chords, from a keystone effect of abutting leaflets in the competent valve, or by restoration of normal intraventricular blood flow out the left ventricular outflow tract and not into the left atrium. Furthermore, the authors hypothesize that the direct measurement of chordal tension could facilitate optimizing chordal length without substantially adding to procedure time over the use of transesophageal echocardiography alone. The authors admit that additional studies are needed to validate these hypotheses.

Despite the authors’ enthusiasm, it seems unlikely that routine measurement of NeoChord tension with a force sensor will become standard practice when routinely available transesophageal echocardiography could accomplish the goal of assessing optimal cord length. The major contribution of this study is that it provides further insight into the pathophysiology of mitral prolapse.

Central Message
Mitral chordal tension is reduced when coaptation is obtained, but the value of intraoperative chordal tension measurement remains to be demonstrated.

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References