THE NOVEL LIVANOVA 3D RECHORD SEMIRIGID RING FACILITATES MITRAL VALVE REPAIR WITH ARTEFICIAL CHORDS: A MATCHED PAIR ANALYSIS

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Background
Replacement of diseased chordae with Gore-Tex sutures (neochordae) in patients with degenerative mitral valve insufficiency has become a standard technique used by surgeons in mitral valve repair with good long-term results. Nevertheless, determining the correct length of the neochordae has remained problematic. Moreover, the nature of the suture material and the tendency of the knot to slide may result in difficulty in establishing the correct length of the neochordae. The novel Livanova (Sorin) 3D Rechord ring with an additional chordal guiding system allows a quick „semi-automatic“ sizing of the neochordae and prevents the „sliding” of knots. We compared patients who underwent mitral valve repair with neochordae using either the novel Livanova 3D Rechord ring or Carpentier-Edwards (CE) Physio II ring in a matched-pair retrospective analysis.

Methods & Results
A matched pair analysis of retrospectively collected data of patients undergoing mitral valve repair between January 2014 –December 2016 was undertaken. 20 Patients received mitral valve repair using neochordae and Livanova 3D Rechord ring were matched with 20 patients with mitral valve repair with neochordae and implantation of CE Physio II ring. Pre- intra- and early postoperative as well as echocardiographic data were analyzed. All values are given as mean±SD, p<0.05 was considered statistically significant. Patients did not differ regarding age, gender, NYHA status, comorbidities, ICU and in-hospital stay as well as in-hospital, and 30-day mortality.

Conclusions
The use of the novel Livanova 3D Rechord ring is safe and provides excellent functional results. The chordal guiding system markedly reduces the time of the procedure by facilitating sizing and knotting and reducing the number of necessary neochordae to achieve valve competence. Although the long-term durability of mitral repair with this type of semirigid annuloplastic ring warrants further validation, our current clinical data are encouraging.