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Accuracy and Procedural Characteristics of Standard Needle Compared with Radiofrequency Needle Transseptal Puncture for Structural Heart Interventions

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HIGHLIGHTS

- This retrospective, single-center study compared the performance and accuracy of a mechanical needle and the Baylis NRG® RF Transseptal Needle in gaining left-sided access via transseptal puncture in 52 structural heart procedures, including left atrial appendage occlusions and mitral valve repairs.
- The punctures attempted using the unassisted mechanical needle were successful in 88% of cases while the NRG® RF needle was successful in 100% of cases (Figure 1). Two cases in which the mechanical needle failed required crossover to the NRG® RF needle to achieve successful transseptal puncture.
- The average extent to which the septum was tented was reduced by 51% with the NRG® RF needle compared to the mechanical needle (Figure 2, $p<0.05$).
- The NRG® RF needle resulted in a higher overall transseptal puncture success rate, decreased puncture time and reduced tenting.

Successful Punctures

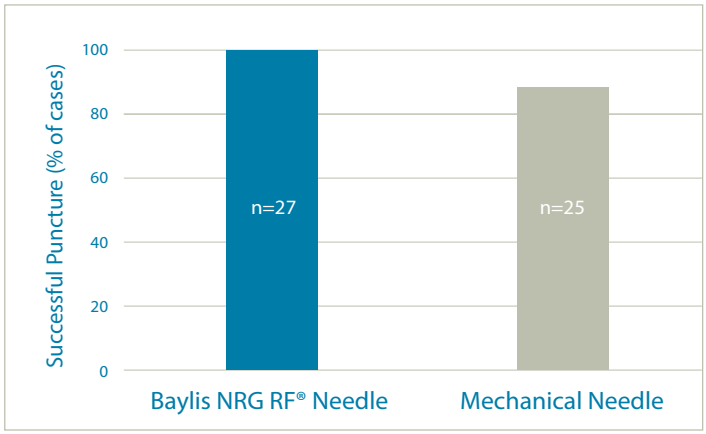

Figure 1. Successful transseptal punctures performed with the Baylis NRG® RF needle vs. an unassisted mechanical needle.

Tenting Distance

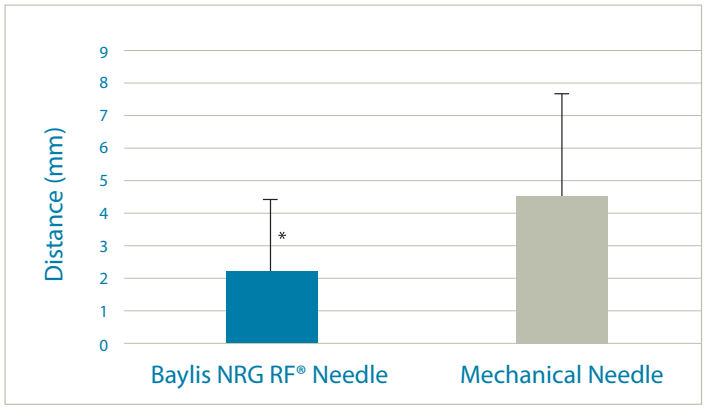

Figure 2. Pre-to-maximum tenting at the transseptal site using the Baylis NRG® RF needle vs. a mechanical needle ($p<0.05$).*

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