

# Transjugular mitral valve repair with the MitraClip: A step-by step guide

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## INTRODUCTION

- ▶ This report describes MitraClip™ device (Abbott) implantation via the transjugular approach in a patient with torturous IVC and prior mitral valve annuloplasty.

## METHODS

- ▶ Initial attempts to engage the septum from the right or left femoral veins failed despite using a large introducer, as well as various fixed and steerable catheters and needles.
- ▶ CT confirmed extreme tortuosity in the iliofemoral veins but not internal jugular vein (IJ).
- ▶ Right IJ access was evaluated at the bench and accessed under ultrasound guidance.

### Transseptal puncture

- ▶ SupraCross® RF Wire was advanced into the IVC through the SupraCross® Steerable Sheath (Baylis Medical).
- ▶ Dilator was extended just 1 cm beyond the tip of the sheath.
- ▶ Transseptal system was rotated to 8 o'clock, retracted and flexed to engage and tent the septum in the mid-superior position.
  - NB: Transjugular approach does not have the same requirements for transseptal height as from a femoral approach.
- ▶ Tenting was optimized by further exposing the dilator (Figure 1) and confirmed on transesophageal echocardiography (TEE).
- ▶ Flex and forward advancement were applied to the SupraCross® sheath and wire assembly during RF transseptal puncture.
- ▶ The RF wire assumed a pigtail confirmation immediately upon entry in the left atrium (LA).

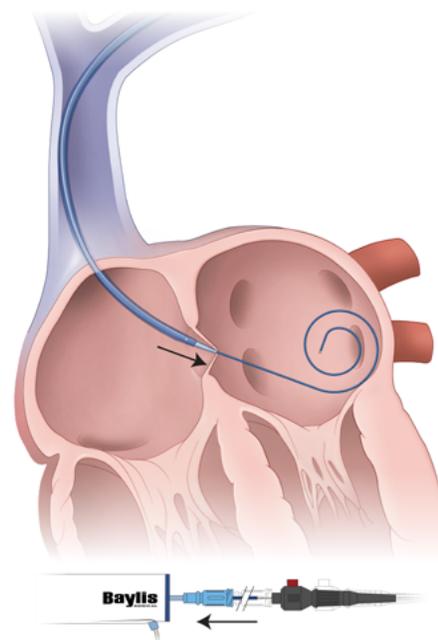
### MitraClip™ procedure

- ▶ ProTrack™ Pigtail Wire (Baylis Medical) was used to introduce the MitraClip™ Steerable Guide Catheter.
- ▶ MitraClip™ delivery system was mis-keyed at 90° counterclockwise and advanced into the LA under-straddled to navigate toward the desired position.
  - M Knob resulted in medial and anterior deflection.
  - Rotating counterclockwise resulted in posterior positioning to counteract anterior deflection of M Knob.
  - Anterior Knob resulted in both anterior and lateral deflection, while the Posterior Knob resulted in both posterior and lateral deflection.

- ▶ MitraClip™ device grasping, deployment and hemostasis were performed similarly to the femoral approach.
- ▶ Perclose ProGlide™ suture (Abbott) and figure-of-8 stitch were used for venous access closure.

## DISCUSSION & CONCLUSIONS

- ▶ Right IJ access is a reasonable alternative to performing MitraClip™ device procedures in the absence of femoral access.
- ▶ SupraCross® Steerable Sheath and dilator, respectively, allowed adjustment of the sheath trajectory and tenting of the septum from the transjugular route.
- ▶ The RF wire used for transseptal puncture provided further support for advancing the steerable sheath across the septum.
- ▶ Intentional miskeyed insertion and under-straddle improve steerability and co-axial positioning of the MitraClip™ system within the LA from the IJ approach.



**Figure 1** SupraCross® Steerable Sheath was flexed and maneuvered to engage the septum using internal jugular vein access. Further optimization of tenting was possible by extending the dilator. (Figure adapted from Yap et al, 2020.)