

# Evasion maneuver for transseptal approach during cryoballoon pulmonary vein isolation

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**Purpose:** Pulmonary vein isolation (PVI) is a cornerstone therapy in patients with symptomatic atrial fibrillation. One current method is performing a PVI using a cryoballoon (CB). The CB is inserted into the left atrium via a steerable sheath. However, at times, passing of the interatrial septum by the sheath is hindered, e.g., due to septal fibrosis. Here we report our experience with an evasion maneuver to facilitate this approach using a 6F multipolar and steerable diagnostic catheter (CS) for predilatation of the interatrial septum.

**Methods and results:** We report 10 patients undergoing a CB-PVI, where the investigator experienced difficulties in passing the interatrial septum with the CB sheath. In these cases, after three conventional abortive attempts, we predilated the transseptal puncture site using both the CS catheter and the dilatator of the CB sheath. Thereafter access of the CB sheath to the left atrium could be achieved instantly and without further resistance.

**Conclusion:** We report a safe and feasible maneuver to facilitate transseptal access with the CB steerable sheath in cases complicated by excessive interatrial resistance.

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**Keywords:** Coronary sinus catheter, Cryoballoon, Pulmonary vein isolation, Transseptal approach

## Introduction

Atrial fibrillation (AF) is the most common sustained atrial arrhythmia with increasing incidence and prevalence [1,2]. Pulmonary vein isolation (PVI) is a cornerstone therapy in drug resistant AF. Several studies proved the superiority of PVI versus medical therapy in symptomatic

patients [3,4]. Beside radiofrequency (RF) ablation PVI with cryoballoon (CB; Medtronic, Minneapolis, MN, USA) established several years ago. Recently, a study reported a noninferiority of CB versus RF ablation [5]. During PVI with CB a special unidirectional and steerable sheath (FlexCath Advance Steerable Sheath; Medtronic) is introduced in the left atrium (LA). Its inner diameter is 12F and the outer diameter is 15F. In

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our clinical experience we noticed in several cases that passing the interatrial septum (IAS) with the CB sheath was difficult due to stiff or thickened tissue. We report on our experience of a simple evasion maneuver during transseptal access with the CB sheath using a 6F multipolar, steerable diagnostic catheter as a predilatator in conjunction with the dilatator of the CB sheath.

## Material and methods

We report 10 patients who were treated by PVI using a CB catheter. PVI was performed under deep sedation using midazolam and propofol. After transseptal puncture was achieved with a fixed, 8F sheath (LAMP45; SJM, St. Paul, MN, USA) using a BRK needle (SJM), a stiff wire (Amplatz super stiff; Boston Scientific,

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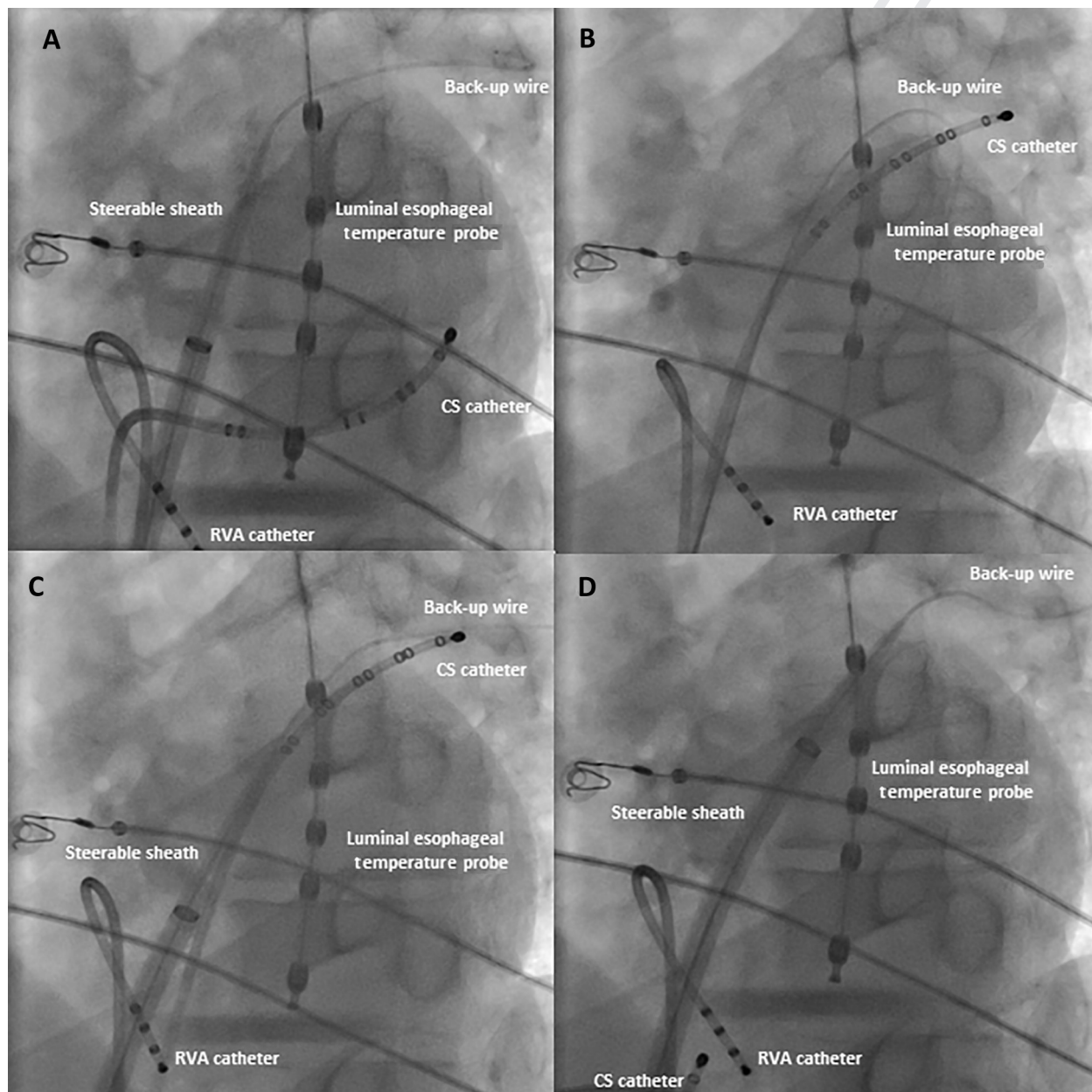


Figure 1. (A) Unsuccessful transseptal passage with the steerable sheath; (B) coronary sinus catheter placed in LSPV; (C) dilatation of the puncture site; (D) CB sheath placed in LA. Pictures taken in LAO 40° view. CB = cryoballoon; CS =; LA = left atrium; LAO = left anterior oblique; LSPV = left superior pulmonary vein; RVA = .

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