



Can we implant left ventricle pacing lead in a patient with coronary sinus reducer?

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Received: 21 August 2017 / Accepted: 16 November 2017
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Keywords Coronary sinus reducer · Cardiac resynchronization therapy · Coronary sinus lead · Refractory angina

A 77-year-old man, who had a coronary sinus (CS) Reducer SystemTM (Neovasc, Canada) for refractory angina treatment implanted since 8 months, was referred for cardiac resynchronization therapy (CRT). The CS reducer is a stainless steel balloon-expandable hourglass-shaped stent, designed to create a focal narrowing leading to increased pressure in CS. The diameter of its mid portion is 3 mm (9F), and it can reach diameter of 7–13 mm (21–39F) at both ends. Recent studies have shown significant improvements in patients with refractory angina who were not candidates for revascularization [1, 2]. In order to position the left ventricular pacing lead, a CS angiography was performed showing the reducer system with a partial occlusion of the vessel lumen (Fig. 1A). A 5-Fr electrophysiology catheter was easily pushed through the reducer while the 9-Fr delivery sheath was stopped before the minimum diameter of the stent. A

guidewire was inserted until the target postero-lateral vein and a 5-Fr quadripolar lead (QuartetTM LV, St Jude Medical, St Paul, MN, USA) was positioned using an over-the-wire approach (Fig. 1B). The CRT system implantation was completed successfully and a final angiography excluded the total occlusion of CS (Fig. 1C). To our knowledge, this is the first case of lead implantation in a patient with CS reducer, which could arise concerns considering the partial occlusion of the vessel. The procedure was feasible without any peculiar drawbacks as compared to a standard CRT implantation. No data are available on the long-term consequences of CS lead placement across this reducer system, including possibility of total occlusion or difficulty in lead extraction. Of note, in some anatomy of the CS branch, the insertion of the pacing lead may become more difficult due to lack of sufficient support from the sheath.

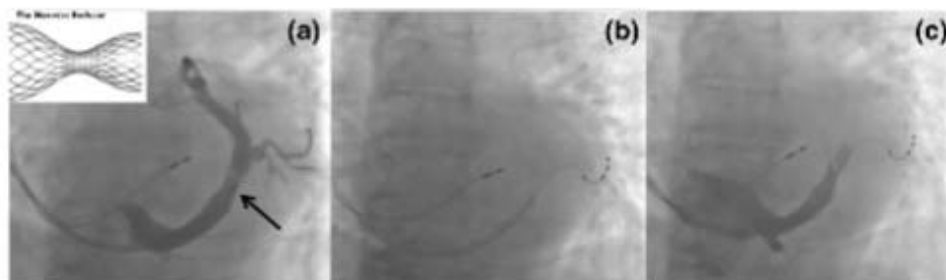


Fig. 1 Fluoroscopy images of left lead implantation. **a** Coronary sinus angiography showing the reducer system (black arrow) with a partial occlusion of the vessel lumen. **b** Successful placement of the lead. **c** Final angiography excluding the total occlusion of coronary sinus

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Compliance with ethical standards

Conflict of interest D.G. is an employee of Biotronik Italia. The remaining authors have no major conflicts of interest to disclose.

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