How to chose LV lead duiring CRT implantation: a case of LV lead dislodgment and re-implantation.

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Introduction: We hope to discuss how to select suitable LV lead according to different morphologies of coronary veins in a case of LV lead dislodgment and re-implantation.

Methods: A 58-year-old man complained of "Repeated chest tightness and shortness of breath for 7 years, syncope once" was admitted into our center and diagnosed as "Dilated cardiomyopathy, CRBBB" according to cardiac echocardiography (LVDd/LVDs: 78/64mm, EF 34%; QRS duration 170ms). CRTD (St Jude, USA) was implanted during hospitalization. During operation, tiny lateral vein and anterior-lateral vein of CS vein were observed via venography. A quadripolar LV lead (St Jude, USA) was implanted into a tiny branch of lateral vein (threshold: tip1 2.0V@0.5ms, tip2 2.5V@0.5ms, tip3 and tip4>5V@0.5ms), however, LV lead dislodgment happened one month after implantation.

Result: Re-implantation was performed. According to venography, a straight quadripolar LV lead (Boston Scientific USA) with Whisper View guiding wire (Boston Scientific USA) was wedged into branch vessels for lead stability and satisfactory threshold (tip1 1.0V@0.5ms, tip2 1.5V@0.5ms, tip3 and tip4@5V@0.5ms).

Conclusion: CS anatomy could be a limitation of LV lead implantation. Suitable LV lead should be considered according to those situation. Well designed LV lead could meet the needs of various coronary venous anatomies, and could be successfully implanted in most patients and was associated with low acute and chronic complication rates.