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Single-Center Retrospective Review of Radiofrequency Wire Recanalization of Refractory Central Venous Occlusions

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INTRODUCTION

This retrospective, single-center, single-operator study assessed the safety and efficacy of radiofrequency (RF) wire recanalization of refractory central venous occlusions (CVOs).

METHODS

20 refractory CVOs in 18 patients were treated with RF wire recanalization.

- CVO traversal was first attempted using standard and advanced techniques.
- RF wire recanalization with the PowerWire® RF Guidewire was employed in all cases where other techniques were unsuccessful.
- If CVO traversal was successful, serial angioplasty was performed followed by stent placement.

Technical success: CVO traversal, venoplasty, and stent placement with resolution of treated occlusion.

Clinical success: Patient-reported resolution of symptoms.

RESULTS

Technical and clinical success were achieved in 16 out of 20 CVOs (80%)

- Attempts to recanalize one 10.5cm calcified occlusion failed on two separate occasions.
- One RF wire recanalization was aborted due to intolerable pain at the treatment site.
- One serious adverse advent occurred involving perforation into the pericardial space, which was managed conservatively with no long-term effects.

Primary patency was observed in 56% of successfully treated CVOs at median follow-up of 14.1 months.

DISCUSSION

RF wire recanalization appears to be a safe and effective option for refractory CVOs.

- To minimize potential adverse events, operators should carefully map out vascular anatomy, CVO course, and adjacent critical structures.
- Multiple venograms, cone-beam CT, and/or intravascular ultrasound should be used to confirm RF wire positioning before and during RF recanalization, with a snare positioned on the opposite side of the CVO as a distal target.

Disclaimer: *this study includes both on-label and off-label use of the PowerWire® RF Guidewire. Before use, consult product labels and Instructions for Use for Indications for Use, Contraindications, Warnings, Precautions, Adverse Events and Directions for Use.*

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