

Salvage failure of infected cardiac implanted electronic devices (CIEDs)

Attempted device salvage study¹

Ten international academic medical centers prospectively utilized the MEDIC database in an attempt to evaluate clinical predictors for successful salvage of infected cardiovascular implantable electronic devices (CIEDs).

The study included 433 patients. Although expert guidelines mandate complete removal of infected devices², 127 cases (29%) broke guidelines and attempted to salvage the infected devices.

Results¹

- Of the 127 attempted device salvages, 101 failures (80%) were observed within six months.
- Of the 53 patients discharged with an infected CIED, 26% died.
- No predictors were identified for what could be salvaged.

26%

mortality within six months for patients that were discharged with an infected CIED

The bottom line

“Device removal should remain a mandatory and early management intervention in patients with CIED infection.”¹

James E. Peacock, MD

Expert guidelines mandate² (Class I indication):

1. Extractor consult for device patients with documented infection
2. Complete device removal for CIED infection

More than 60% of patients suffering from CIED infections are treated with antibiotics only or not treated at all, which leads to relapse and mortality.³

Complete system removal, including the leads, is warranted in all patients with CIED infections in the absence of patient refusal or medical contraindications.¹



Timely, safe lead extraction can save lives and prepare patients for long-term health.

Immediate system removal is associated with a three-fold decrease in one-year mortality vs. preliminary antibiotic treatment and delayed system removal.⁴

Lead extraction, when indicated, is a highly successful, potentially lifesaving procedure, with a clinical success rate of 97.7% and a procedural survival rate of 99.72%.⁵ With introduction of the Bridge occlusion balloon, superior vena cava (SVC) tear survival has increased from 50% to 91.7%.⁶

infection + device = removal

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4. de Bie, Mihály K., et al. "Cardiac device infections are associated with a significant mortality risk." *Heart Rhythm* 9.4 (2012): 494-498.
5. Wazni, O. et al. Lead Extraction in the Contemporary Setting: The LExlCon Study: A Multicenter Observational Retrospective Study of Consecutive Laser Lead Extractions, *J Am Coll Cardiol*, 55:579-586.
6. Roger G. Carrillo, MD; Darren C. Tsang, BS; Ryan Azarra y, BA; Thomas A. Boyle, BS. Multi-Year Evaluation of Compliant Endovascular Balloon in Treating Superior Vena Cava Tears During Transvenous Lead Extraction. EHRA late-breaking trial, March 19, 2018.

