

Subcutaneous Implantable Cardioverter Defibrillator (S-ICD) Electrode Fracture: Follow-up, Troubleshooting and Evaluation

Danesh Kella¹ and Bruce Stambler²

¹Mayo Clinic

²Piedmont Heart Institute

February 4, 2021

Abstract

Introduction: The subcutaneous-ICD (S-ICD) and its electrode were developed to avoid long-term complications of transvenous leads in the vasculature. **Methods:** We report a case of unexpected, inappropriate S-ICD shocks due to oversensing of high amplitude, non-physiologic, electrical noise artifacts that were not preceded by high impedance alerts or sensing electrogram noise detections. **Results:** Following explant, high-magnification, X-ray imaging of the S-ICD electrode demonstrated partial fracture of the distal sensing conductor located near a short radius bend in the electrode at the electrode-header interface. **Conclusions:** Clinicians should be aware of a potential for fatigue failure fracture of the S-ICD electrode. Recommendations for systematic S-ICD follow-up and troubleshooting are discussed.

Hosted file

Sub Q ICD Case report Final.pdf available at <https://authorea.com/users/393627/articles/507216-subcutaneous-implantable-cardioverter-defibrillator-s-icd-electrode-fracture-follow-up-troubleshooting-and-evaluation>