



# Endocarditis associated with the lead of an implantable cardioverter-defibrillator

 Josipa Pekez<sup>1\*</sup>,  
 Ivana Šmuc<sup>1</sup>,  
 Zrinka Paić<sup>1</sup>,  
 Ivica Benko<sup>1,2</sup>,  
 Nikolina Valjak<sup>1</sup>,  
 Ivana Alković<sup>1</sup>,  
 Dora Aldžić<sup>1</sup>,  
 Valentina Brcković<sup>1</sup>,  
 Kristina Kardum Antunović<sup>1</sup>,  
 Petra Ozimec<sup>1</sup>,  
 Julija Buljan<sup>1</sup>,  
 Anita Pleško<sup>1</sup>,  
 Anamarija Mikša<sup>1</sup>,  
 Ljiljana Bažant<sup>1</sup>

<sup>1</sup>Dubrava University Hospital, Zagreb, Croatia

<sup>2</sup>University of Applied Health Sciences, Zagreb, Croatia

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**\*ADDRESS FOR CORRESPONDENCE:** Josipa Pekez, Klinička bolnica Dubrava, Avenija Gojka Šuška 6, HR-10000 Zagreb, Croatia. / Phone: +385-95-8513-327 / E-mail: [joshiiii2000@gmail.com](mailto:joshiiii2000@gmail.com)

**ORCID:** Josipa Pekez, <https://orcid.org/0000-0001-5949-3311> • Ivana Šmuc, <https://orcid.org/0009-0000-2735-507X>

Zrinka Paić, <https://orcid.org/0000-0002-7381-0691> • Ivica Benko, <https://orcid.org/0000-0002-1878-0880>

Nikolina Valjak, <https://orcid.org/0009-0004-9189-5432> • Ivana Alković, <https://orcid.org/0009-0004-8985-4404>

Dora Aldžić, <https://orcid.org/0000-0001-8275-1702> • Valentina Brcković, <https://orcid.org/0009-0008-6133-6460>

Kristina Kardum Antunović, <https://orcid.org/0009-0006-1404-8090> • Petra Ozimec, <https://orcid.org/0000-0003-2280-423X>

Julija Buljan, <https://orcid.org/0009-0002-8678-6421> • Anita Pleško, <https://orcid.org/0009-0007-9215-6748>

Anamarija Mikša, <https://orcid.org/0009-0006-6442-033X> • Ljiljana Bažant, <https://orcid.org/0009-0004-9211-1388>

**Introduction:** Infective endocarditis is a serious medical condition associated with high mortality and morbidity, despite advancements in diagnosis and treatment. With the aging population, the increasing use of cardiac implantable electronic devices and heart valves, the risk of infective endocarditis, has grown significantly over the years with its incidence on the rise.<sup>1</sup> This paper presents the case of a 54-year-old patient with enterococcal endocarditis linked to cardioverter, defibrillator leads and surgically treated tricuspid and mitral valves.

**Case report:** The patient presented with symptoms such as high fever and back pain and was treated with antibiotics a long side surgical removal of the device. His symptoms included a fever reaching up to 40°C persisting for three weeks. He was evaluated at an infectious disease clinic where *Enterococcus faecalis* was isolated in three sets of blood cultures. Initially treated for enterococcal sepsis with suspected endocarditis at the infectious clinic. The patient was later transferred to Dubrava University Hospital for further treatment. Transesophageal echocardiography revealed vegetation on the lead of the implantable cardioverter-defibrillator (ICD), and treatment proceeded with three intravenous antibiotics. The patient's medical history includes the implantation of a mechanical mitral valve and tricuspid valve annuloplasty with a ring in 2022. He also had a ICD implanted in 2015, which was replaced in 2022. The patient underwent a six-week course of antibiotic therapy, during which complete extraction of the ICD and leads was performed. However, due to secondary prevention after two weeks of stable inflammatory markers and an echocardiogram showing no visible vegetations, a subcutaneous ICD was implanted to mitigate the risk of sudden cardiac death. The S-ICD was developed as an alternative for patients without venous access to the heart, aiming to reduce complications such as endocarditis associated with transvenous leads.<sup>2</sup> The patient was discharged after 42 days of treatment in improved general condition, with regular follow-ups by a cardiologist and device check-ups.

**Conclusion:** In patients with cardiac implantable electronic devices and prosthetic valves, a multidisciplinary approach involving surgical intervention, targeted antibiotic therapy, and alternative device strategies, such as the use of an S-ICD, can be critical in managing infection risks and improving outcomes in cases of infective endocarditis.

## LITERATURE

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