

IMAGES AND VIDEOS

# Right atrial ghost following device extraction for infective endocarditis

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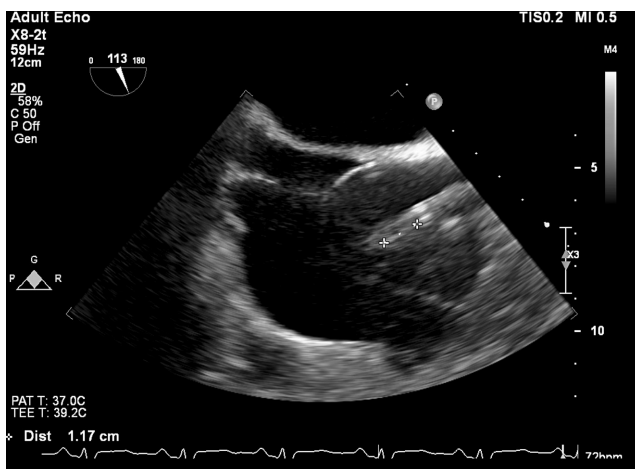
## Summary

A 64-year-old male required extraction of a dual chamber implantable cardioverter defibrillator (ICD) due to lead endocarditis. Blood cultures were positive for *Staphylococcus lugdunensis*. Transoesophageal echocardiography (TOE) demonstrated a 11.7mm vegetation attached to the right ventricular (RV) lead (Fig. 1 and Video 1). No vegetation was identified on the right atrial (RA) lead. Device extraction took place using TOE guidance. It was uncomplicated, but at the end of the procedure a cast-like structure was seen in the right atrium thought to represent fibrous or infective debris which had been encasing one of the leads (Fig. 2 and Video 2). All lead insulation from the extracted leads was intact. Device lead endocarditis is an indication for complete removal of the pacemaker system and intra-procedural imaging such as TOE is strongly recommended during device

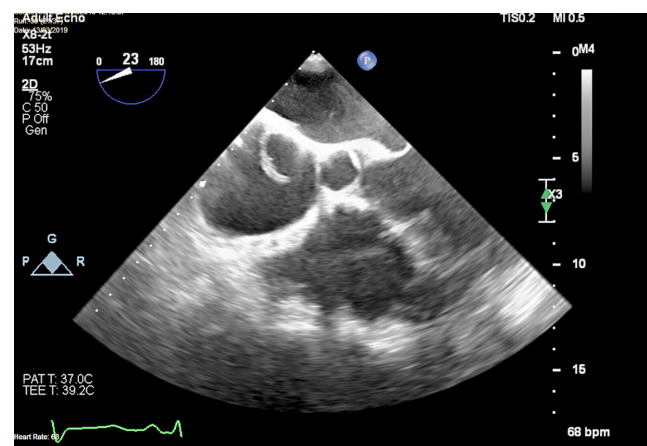
extraction to assess for complications which may lead to haemodynamic instability (1). The presence of residual debris or ghosts in the RA or superior vena cava (SVC) following lead extraction has an incidence of 8–14% (2, 3), occurring more commonly with infected leads. There is no specific therapy when this is identified, but it has been associated with higher mortality (3). Its presence ought to be documented at the time of extraction.

## Video 1

Pre-extraction TOE bi-caval view. The mobile vegetation is demonstrated attached to the RV lead. No vegetations were seen on the RA lead. View Video 1 at <http://movie-usa.glencoesoftware.com/video/10.1530/ERP-19-0038/video-1>.



**Figure 1**  
Pre-extraction TOE, bi-caval view. A vegetation is seen attached to the RV lead as it enters from the SVC at the RA junction.



**Figure 2**  
Post-extraction TOE 5-chamber view. The echo-free space represents the now extracted lead, leaving behind this fibrous cast in the RA.

## Video 2

Post-extraction TOE 5-chamber view. Following removal of the RV lead, a filamentous mobile structure was seen in the RA. View Video 2 at <http://movie-usa.glencoesoftware.com/video/10.1530/ERP-19-0038/video-2>.

### Declaration of interest

The authors declare that there is no conflict of interest that could be perceived as prejudicing the impartiality of this article.

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### Patient consent

Written informed consent for publication of clinical details and clinical images was obtained from the patient.

## References

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