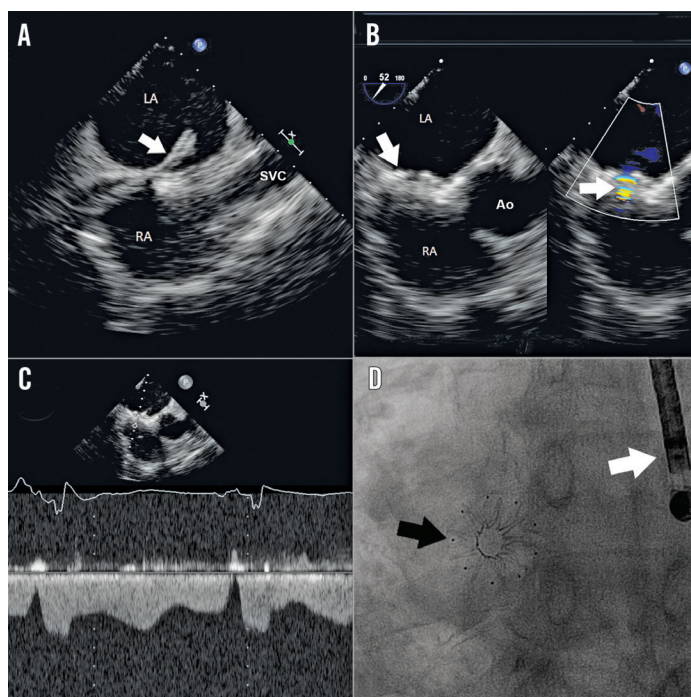


# Microprobe transoesophageal echocardiographic guidance during transcatheter interatrial septal device implantation in heart failure with a preserved ejection fraction



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Ao: aorta; LA: left atrium; RA: right atrium; SVC: superior vena cava

A 73-year-old male with a history of transient ischaemic attack, paroxysmal atrial fibrillation and heart failure with a preserved ejection fraction (HFPEF) was seen in the outpatient clinic with severe symptoms of heart failure despite optimal medical therapy. Prior to study inclusion (REDUCE-LAP trial) a heart catheterisation had been performed. The coronary angiogram showed only a significant stenosis of a small ramus descendens posterior.

Pulmonary hypertension (mean pulmonary artery pressure 34 mmHg) with an increased wedge pressure (21 mmHg) was present. The patient gave informed consent and was accepted for interatrial septal device (IASD®; DC Devices, Inc., Tewksbury, MA, USA) implantation in order to lower left atrial pressure. The procedure was performed under local anaesthesia and microprobe transoesophageal echocardiography (mTEE) guidance (S8-3t sector array multiplane microTEE; Philips Healthcare, Best, The Netherlands). A transseptal puncture via the transfemoral access was performed as seen in the mid-oesophageal bicaval view in

**Panel A** (arrow). Subsequently, the IASD was implanted with the occurrence of a continuous left-to-right atrial flow through the device. **Panel B** shows, using the mid-oesophageal short-axis at the base view, the implanted IASD with left-to-right flow using colour Doppler (arrows). **Panel C** indicates permanent left-to-right shunt using continuous wave Doppler. The per-procedural fluoroscopic image (**Panel D**) shows the IASD and the microprobe (respectively black and white arrow).

The procedure and hospitalisation were uncomplicated. The use of mTEE was easy and safe. The handling of the mTEE probe was similar when compared to standard TEE. Though the images from the mTEE had a lower resolution, they were good enough for transcatheter (atrial) intervention, such as IASD implantation. All necessary views could be recorded, except for three-dimensional images.

## Conflict of interest statement

The authors have no conflicts of interest to declare.

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