Patent foramen ovale closure with intracardiac echocardiography guidance

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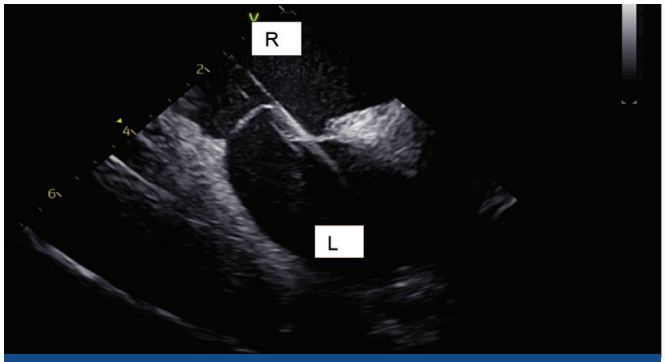

FIGURE 1. Catheter passing from right atrium (RA) through the patent foramen ovale to the left atrium (LA).

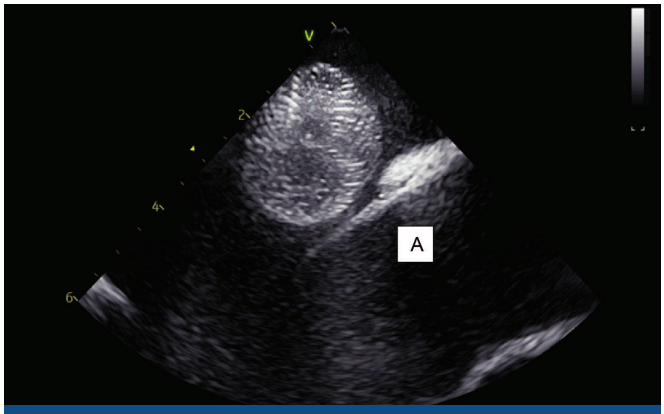

FIGURE 2. High resolution image showing the optimal position of the patent foramen ovale occluder in relation to other heart structures.

Introduction: One-third of ischemic stroke are cryptogenic[1]. Transcatheter closure of patent foramen ovale (PFO) reduces the risk of cryptogenic stroke in patients aged 18-60. According to six randomized clinical trials and several meta-analyses, transcatheter closure of PFO has been proved as a safe procedure with many advantages compared to medical therapy. Transcatheter PFO closure is mostly preformed with transesophageal echocardiography (TEE) guidance. Intracardiac echocardiography (ICE) is a promising modality in guiding patent foramen ovale closure. The aim of this lecture will be performance of ICE guided PFO closure, advantages and disadvantages of ICE, comparation to TEE and first results in Clinic Magdalena.

Case report: This is a case report of a 40-year-old female patient with a history of ischemic stroke and residual right sided hemiparesis. An extensive medical examination proved PFO as the cause of the stroke. PFO closure with ICE guidance was preformed showing high quality images (**Figures 1 and 2**) obtained from the ICE probe inserted through the left femoral vein directly in the right atrium. PFO closure with ICE guidance provides a clear visualization of the interatrial septum, a single operator procedure and it can be completed under conscious sedation[2]. It also provides a shorter procedure time and shorter hospital stays with a decrease in adverse events comparing to TEE[3]. ICE guided PFO closure made the hospital stay much more comfortable for the young patient with less cost for the hospital.

Conclusion: TEE is still a gold standard in guiding PFO closure but studies show that both strategies are useful with some arguments in favor of ICE.

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