USING OF INTRACARDIAC ECHOGRAPHY DURING ASD CLOSURE

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BACKGROUND

Transcatheter device ASD closure is a good alternative to open heart surgery. Most often the ASD closure is performed under transthoracic and transesophageal echocardiography. Although TEE provides exceptional images, it requires general anaesthesia and cannot be used in case of esophagus abnormality. These reasons explain the need to develop new imaging tools.

OBJECTIVE

The aim of this study is to compare views obtained by different methods of intracardiac ultrasound (Ultra ICE, AcuNav).

METHODS

42 closure procedures were performed in the Philips Allura cathlab with a local or general anaesthesia, depending on age. To perform an intracadiac echocardiography (ICE) guidance we used the Ultra-ICE (iLab) by Boston Scientific in 39 cases and AcuNav by Biosense Webster in 3 cases.

RESULTS

By Ultra ICE we can get two cross-sectional views of the fossa ovalis in a 360° radial plane. The Ultra ICE allows to evaluate the length of the septum, the oval fossa perimetry, the all muscular edges, the right and left atria, tricuspid and mitral valves.
AcuNavTM scans in the longitudinal monoplane, providing a 90° sector image. By AcuNav we can get longitudinal and short-axis views of fossa ovalis. We can see right and left atrium, ascending aorta, inferior vena cava, superior and inferior muscular rims of fossa ovalis, and the diameter of the defect can be measured.

CONCLUSIONS

ICE provides clear visualization of heart structure, size and location of the defect and presence of rims. All device deployment steps can be monitored using ICE. The advantage of using AcuNav system is the possibility of acquiring doppler and color flow imaging.