Figure-of-eight artifact after successful percutaneous closure of left atrial appendage

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An 80-year-old man with non-rheumatic atrial fibrillation underwent transcatheter occlusion of left atrial appendage (LAA) with the Amplatzer™ Cardiac Plug (ACP) device due to warfarin contraindications. A 28 mm ACP device was chosen based on LAA morphology, transesophageal echocardiography (TEE) measurements, and operator experience. After device deployment, sufficient anchoring was confirmed by pulling and releasing the delivery catheter under fluoroscopic and TEE surveillance. The final result was excellent without significant residual leak or pericardial effusion. The patient was discharged without any complication. Follow-up transthoracic echocardiography (TTE) performed 6 weeks after implantation with Mindray M9 system with a SP5-1S transducer (Mindray Bio-Medical Electronics, Shenzhen, China) showed an intriguing image with the shape of the number eight ("figure-of-eight") can be observed on echocardiography after successful percutaneous closure of LAA with the ACP device. This phenomenon is an image artifact that results from the specific “epitrochoidal” mesh configuration of the device and its interaction with ultrasound waves [2]. It is most frequently seen in the apical five-chamber view, when the device is imaged from a coronal imaging position. The morphology of the artifact depends on the imaging depth, with a more asymmetric figure-of-eight for a smaller probe-to-device distance. In a previous study it was demonstrated that this specific artifact can also be observed in other types of disc occluders with comparable epitrochoidal geometry when imaged from a coronal imaging position [3]. It is important to recognize the figure-of-eight as being a normal imaging artifact of a correctly deployed device, and this finding should not be interpreted as a sign of incorrect ACP implantation. The use of real-time 3D TEE provides additional anatomical information and improves demonstration of the spatial relationship of atrial structures compared with conventional 2D echocardiography [4].

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Conflict of interest

There is no conflict of interest concerning this manuscript.
References


