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PERCUTANEOUS REINTERVENTION USING A SECOND OCCLUDER DEVICE FOR RESIDUAL SHUNT AFTER PFO CLOSURE. CASE REPORT.

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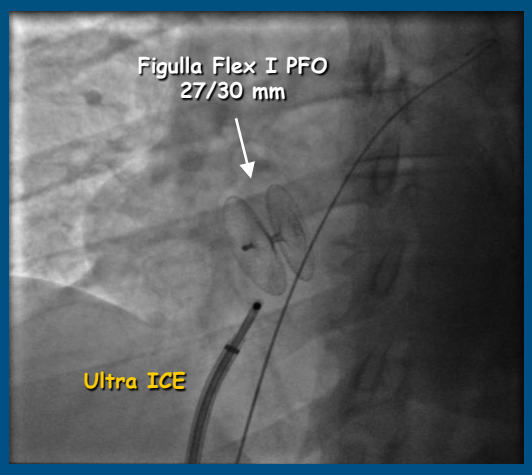
Background : Patent Foramen Ovale (PFO) closure can be attained to a reasonably high degree of completeness. Moderate to large residual shunt (RS) after PFO closure poses a significant clinical dilemma due to the fact that they can add a higher risk for recurrent neurological events regardless of antiplatelet or anticoagulant therapy. However, their management have not been clearly established in clinical practice. In this report we describe our experience with closing a residual shunt by the implantation of a second occluder device.

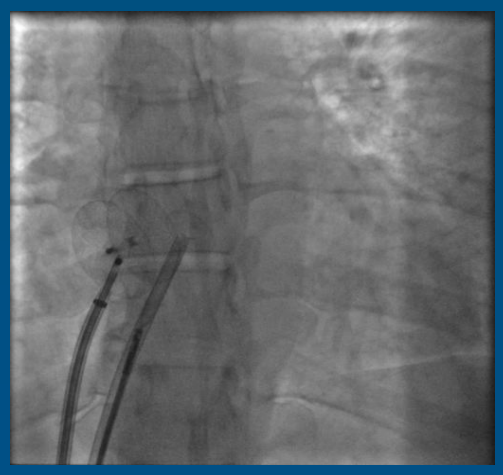
Methods : In a 53 years-old lady with previous transient ischemic attack (TIA) and concomitant migraine aura a permanent significant right-to-left shunt via PFO was documented both by contrast transthoracic/transesophageal echocardiography (cTTE/TEE) and transcranial Doppler (cTCD). PFO anatomy was complex due to the association with a huge atrial septal aneurysm (ASA). Minor thrombophylic disorder (MTHFR gene mutation) was detected and a sister has been diagnosed with Lupus. Closure of PFO was clinically indicated for secondary prevention in the setting of previous cryptogenic cerebrovascular events due to presumed paradoxical embolism.

Results : On March 2012 the patient underwent uneventful transcatheter PFO closure using an Occlutech Figulla Flex I PFO Device 27/30 mm. Clopidogrel 75 mg was recommended for the first two months and aspirin 100 mg for at least 6 months. Nonetheless, a moderate RS was detected by cTEE and cTCD at 4 months follow up with unclear clinical relevance. The presence of pulmonary arteriovenous malformations was ruled out. A percutaneous reintervention using a second device was accomplished using a Figulla Flex II PFO Device 16/18 mm. The procedure was done with local anesthesia under fluoroscopic guidance and rotational intracardiac echocardiography (Ultra-ICE) with simultaneous cTTE, achieving complete residual shunt closure. Antiplatelet therapy was recommended for 6 more months. The 1 month post-procedural cTEE and ceTCD revelead no interatrial RS.

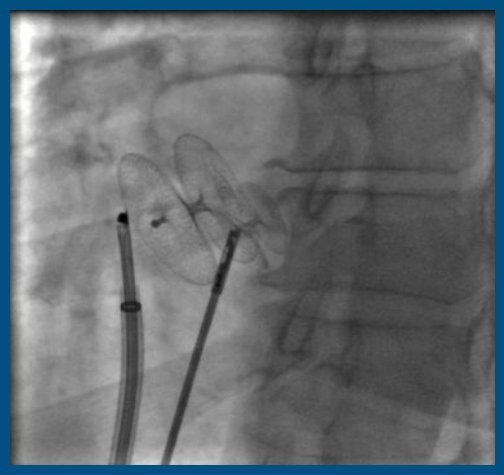
FLUOROSCOPIC GUIDANCE



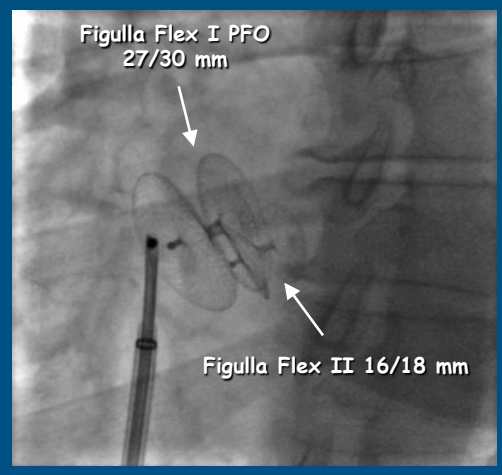
exchange guide wire crossing the residual defect



Figulla Flex II PFO 16/18 mm left disc opening

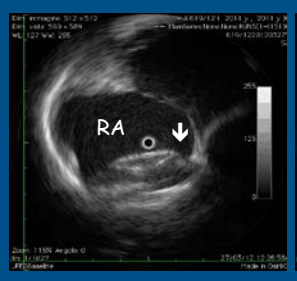


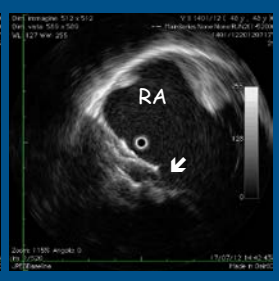
Figulla Flex II PFO 16/18 mm right disc opening

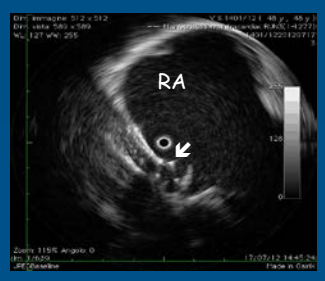


Figulla Flex II PFO 16/18 mm finally deployed

ROTATIONAL ULTRA ICE

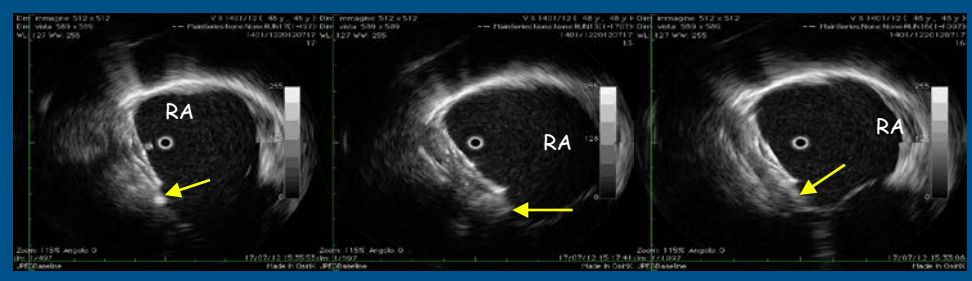






previous Figulla Flex I PFO 27/30 mm;

↙ small residual defect placed infero-anteriorly (partially uncovered septum primum.)



Figulla Flex II PFO 16/18 mm successfully deployed covering the previously implanted device and closing the residual shunt

Conclusions : Our case report suggests that catheter closure of residual shunt after PFO closure using a second device is feasible, safe and effective. Long term follow up cTCD and cTTE/TEE should be pursued at regular intervals postoperatively in order to confirm the abolition of the shunt. Further randomized clinical trials are necessary to assess the predictive value of RS and the long-term efficacy of catheter closure when compared to pharmacological or surgical closure.