



LEFT ATRIAL APPENDAGE CLOSURE WITH DOUBLE “MOTHER AND CHILD” WATCHMAN FLX: A CASE REPORT, A NEW PERSPECTIVE

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Rational: Left atrial appendage closure (LAAC) is an alternative to anticoagulant therapy to prevent thromboembolic events in selected patients affected by atrial fibrillation. In some rare cases of very complex anatomy, a complete closure may not always be obtained with a single device. We report a case of a bilobated LAA with a very large ostium successfully closed with two devices in one step with an optimal result. A 81-year-old male with clinical history of permanent atrial fibrillation, arterial hypertension, obstructive coronary disease treated by coronary artery by-pass graft surgery, chronic obstructive pulmonary disease, gastrointestinal angiodysplasia with major bleedings during anticoagulation with apixaban, was referred for LAAC. We performed a pre-procedural transesophageal echocardiographic (TEE) examination, that documented an enlarged left atrium without an intracardiac thrombus, bilobated LAA with a “broccoli” morphology and a large ostium with a diameter range of 24-27 mm. We did not deem a computed tomography (CT) scan to be necessary since the TEE provided all the necessary information.

Technical resolution: During the procedure, contrast medium injection revealed a very huge ostium, over 30 mm, and a bilobated LAA with a major superior and a minor inferior lobe. Therefore, a single device implantation would have been unable to cover the whole ostium and a double device strategy was decided. The TEE projection at 98° showed a depth of the upper major lobe that was suitable for a 31 mm “mother” device, whereas the TEE section at 133° revealed a ridge-like pectinate muscle separating the two lobes and confirmed a depth of the lower and smaller lobe large enough to fit a 20 mm “child” device. Both the devices were successfully implanted using the same delivery sheath. Angiogram and TEE showed a good sealing of the ostium and no evidence of residual LAA blood flow.

Clinical implications: The patient was discharged the third day with no complications, on 100 mg of aspirin and Clopidogrel 75 mg for 1 month. At the 45th day following implantation procedure the patient was feeling good and reported no symptoms. TEE confirmed the correct positioning of the two devices with complete endothelialization and the absence of blood flow detectable by the color Doppler. CT showed correct positioning of the devices verifying the anatomical relationships. Dual antiplatelet therapy was stopped, and the patient continued with clopidogrel 75 mg daily.

Perspective: By means of an accurate evaluation of the LAA anatomy, this strategy was safe and feasible to allow the complete closure of a very large ostium and complex morphologies. Further data are needed to investigate long-term outcomes and CT imaging can be a valid tool to patient device selection, and long-term patient device follow-up, especially in complex cases like this presented.