



A Case of Left Atrial Appendage Occlusion Device Deployed Over Sludge-Catch it While You Can

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Clinical image description

Percutaneous Left Atrial Appendage (LAA) occlusion for non-valvular atrial fibrillation has become the standard of care in patients with an elevated CHA₂DS₂-VASc score and with contraindications to anticoagulation. Given the hypercoagulable state (in the setting of atrial fibrillation) and the absence of anticoagulation, there is a high proportion of patients with pre-existing or developing thrombus in the LAA. The presence of mobile thrombi in the left atrium has been noted as a contraindication for this procedure, since dislodgement and embolisation of thrombus may occur with manipulation of sheaths or devices. Recently, this paradigm is shifting as it was shown that in patients with distally located LAA thrombus, occlusion was feasible when performed with some procedural modifications [1]. The placement of a device in the presence of a dynamic gelatinous “sludge” which is limited to the left atrial appendage is not reported in literature. Here, we report a case of a Watch-

man Flx being successfully deployed over sludge, encasing it in its entirety without immediate post procedural complications.

An 86 year old male with a past medical history of essential hypertension, peripheral arterial disease, persistent atrial fibrillation (CHA₂DS₂-VASc score 4), and subdural hemorrhage needing evacuation by neurosurgery was planned for percutaneous LAA closure. His anticoagulation was discontinued 6 months ago after a fall led to subdural hemorrhage with midline shift. His routine blood work was normal and a transthoracic echocardiogram showed left atrial enlargement with normal ejection fraction and valvular function. Intra operative transesophageal echocardiogram showed auto contrasting in the left atrial appendage (**Figure 1**) and a decision to proceed with appendage closure with a modified technique was made. A 35 mm Boston Scientific Watchman FLX device was successfully deployed, capturing the dense smoke inside the appendage. It was released after the PASS criteria (distal position at the os-



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tium of LAA; barbs anchoring for stability of the device; appropriate size with a compression factor of 25%; device spanning and sealing the ostium) were met [2]. Activated clotting time measured throughout the procedure remained > 300. There was no evidence of thrombus on the left atrial side or a peri device leak after the procedure (**Figure 2**) and the sludge was visibly confined to the left atrial appendage.

This successful “catching” of the existing sludge in the LAA warrants questioning the contraindications for an occlusion device. Certain procedural modifications like minimising catheter manipulation, cautiously advancing the delivery sheath up to the left atrial appendage ostium and using the reduced length Watchman Flx device has resulted in successful left atrial appendage occlusion in patients with left atrial thrombus [1]. Using an activated clotting time of 300 or above is recommended by the heart rhythm society guidelines (class I, level of Evidence: B-NR) [3] to avoid embolisation. A precipitous echodensity without a discrete mass can potentially be confined and restricted to the appendage by the deployment of the device without an increased risk of embolic events. The niche of capturing the auto contrasting sludge as seen in this patient needs to be further studied.

References

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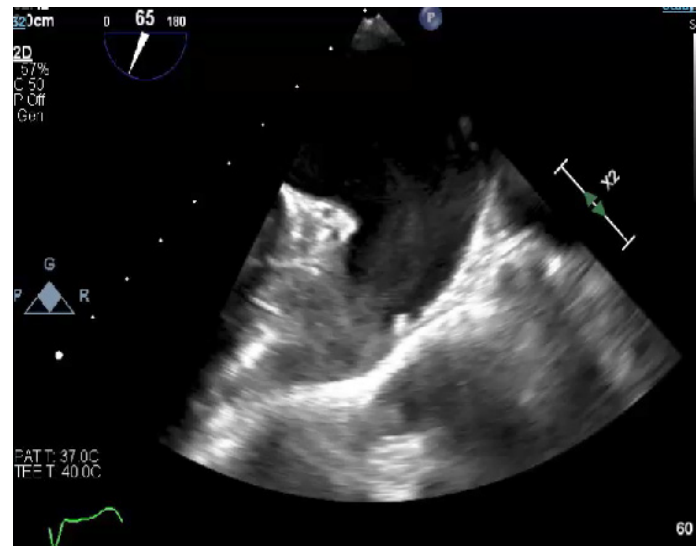


Figure 1: Auto contrasting “sludge” visualized in the left atrial appendage.

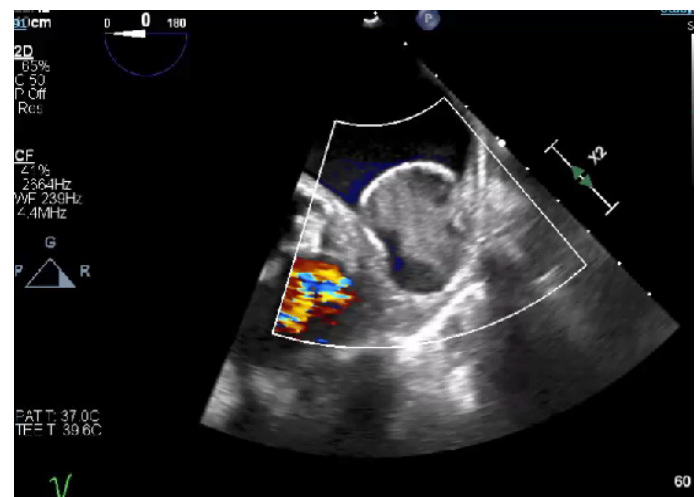


Figure 2: Watchman FLX device deployed without peri device leak or thrombus on left atrial surface.