

Left Atrial Appendage Occlusion with Complex Anatomy Using Two Device “Kissing Watchman” Technique

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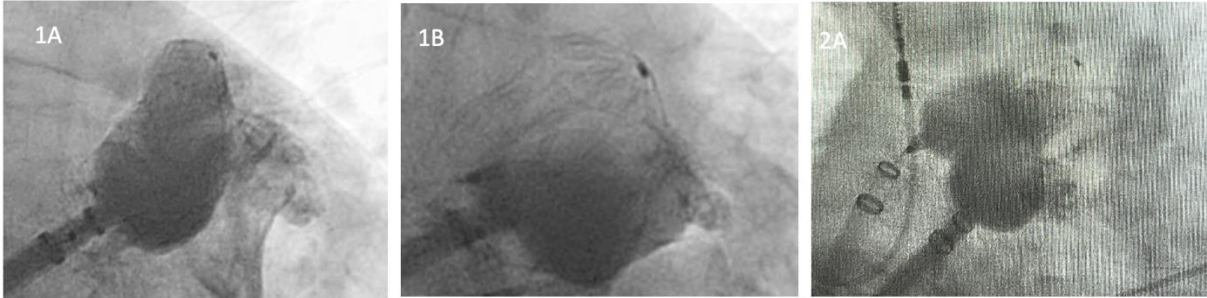
Background: Left atrial appendage (LAA) occlusion reduces the risk of stroke associated with non-valvular atrial fibrillation (AF) as much as therapeutic anticoagulation (AC) but without long-term use of anticoagulants. Due to variability of LAA anatomy, complete closure may not always be achieved using a single device, necessitating using multiple devices. We describe two cases of complex LAA anatomy which were successfully occluded using a “Kissing Watchman” technique.

Cases

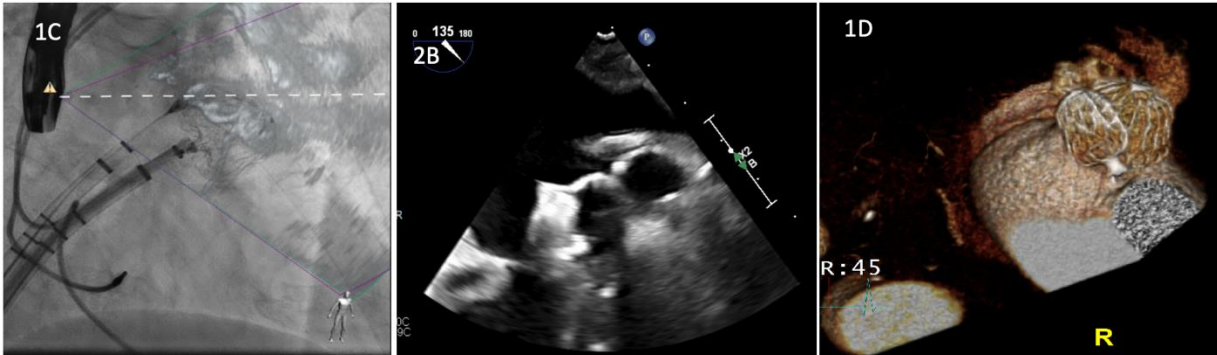
Case 1: A 74-year-old female with paroxysmal AF and tachy-brady syndrome status post dual chamber permanent pacemaker (CHA2DS2-VASc 3 – hypertension, age 1, female) and symptomatic anemia on anticoagulation. A 31 mm WATCHMAN FLX device only covered the anterior lobe of essentially a co-dominant dual lobed LAA with a large central trunk. A 35 mm device covered both the anterior and posterior lobes but extended far beyond the ostium with poor anchor-tissue contact. A two-device strategy using a 27 mm Watchman FLX in the anterior lobe and 20 mm Watchman FLX device in the posterior lobe resulted in successful occlusion (Figure 1A-C). Devices were well-seated without LAA flow by CT at 45 days (Figure 1D).

Case 2: A 70-year-old male with paroxysmal AF (CHA2DS2-VASc 4 – hypertension, age 1, diabetes, coronary artery disease status post PCI). He was unable to afford a DOAC due to a >\$500/month copay, and his INR on warfarin was frequently subtherapeutic despite aggressive dosing interventions. Transesophageal echocardiography (TEE) showed co-dominant anterior and posterior LAA lobes sharing a common ostium: 31 mm and 20 mm WATCHMAN FLX device were used for occlusion, respectively (Figure 2A-B).

Conclusions: The two device “Kissing Watchman” technique is an effective strategy to occlude complex bilobar LAA anatomy. Larger studies are needed to determine definitively the efficacy and safety of this novel technique.



Fluoroscopy with contrast showing need for (Case 1, 1A) and deployment of (Case 1, 1B; Case 2, 2A) 2 WATCHMAN FLX devices



Transesophageal echocardiography (Case 1, 1C with fluoroscopy fusion; Case 2, 2B) and cardiac CTA at 45 days (Case 1, 1D) showing 2 WATCHMAN FLX devices