Abstract: **P1001**

**Safety and effectiveness of transcatheter leak occlusion with detachable coils following left atrial appendage closure**

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Introduction: Incomplete left atrial appendage (LAA) closure resulting in residual, significant leak is common after LAA exclusion procedures, potentially hindering an effective thromboembolic (TE) prevention. Detachable coils have found a wide range of applications for transcatheter vascular occlusion/embolization procedures.

Purpose: We report for the first time the feasibility and efficacy of transcatheter leak closure with detachable coils in patients with incomplete LAA closure.

Methods: Thirty consecutive high TE-risk patients with a clinically-relevant residual leak (mean age: 72±9 years; 73.3% males; CHA2DS2-VASc: 4.3±1.5; HAS-BLED: 3.4±1.1) underwent percutaneous closure of the LAA patency via detachable coils (Interlock-35 Fibered IDC Occlusion System, Boston Scientific Inc.; Concerto Helix Detachable Coil System, ev3 Endovascular Inc; Azur Embolization System, Terumo Interventional Systems). Trans-oesophageal echocardiography (TEE) was performed at 45±15 days post-procedure to assess for residual LAA patency.

Results: LAA closure had been previously attempted with a Watchman device in 25 patients, an Amulet in 2 and a LARIAT in 3. At pre-procedural TEE, a moderate/severe leak was documented in 28 (93.3%) patients, a mild one in 2 (6.7%) patients.

Procedure and fluoroscopy times were 73±40min and 21±15min, respectively; the mean volume of iodinated contrast medium was 80±48mL. Overall, 114 coils were released into patients' LAA (median: 3 coils/patient; IQR: 2-4). Coil deployment was successful in 98.2% of cases (112/114). The overall complication-free rate was 93.3% (28/30). There were no instances of vascular injury, TE events, device dislodgment. There was 1 major adverse device-related event in an 87-yo male, who developed pericardial tamponade requiring a pericardial window. A small pericardial effusion without hemodynamic compromise was noted in a 78-yo woman and treated conservatively.

Follow-up TEE in all patients revealed complete LAA sealing or a minimal-mild leak in 28 cases (93.3%; 22 with no residual leak, 6 with a minimal-mild residual one), and a moderate residual leak in 2 patients (6.7%).

Conclusions: Transcatheter LAA leak occlusion via detachable coils is a safe, effective and promising approach in high TE-risk patients with incomplete LAA closure.