Introduction: Left atrial appendage closure (LAAC) is an alternative choice to prevent stroke for patients with atrial fibrillation. Some patients also have patent foramen ovale (PFO). This study aimed to investigate the feasibility and safety of LAAC when using PFO for left atrial access.

Methods: Patients with atrial fibrillation and at high risk of stroke and bleeding or contraindications to oral anticoagulation received LAAC. LAAC was performed through PFO. After LAAC, the PFO was closed at the same sitting.

Result: A total of 18 patients (aged 70.4 ± 6.4 years; 50% male) were included in the study. The mean CHA2DS2-VASc score and HAS-BLED score were 4.2 ± 1.3 and 2.8 ± 1.0, respectively. LAAC was successful using the PFO for left atrial access. PFO closure was successful in all patients. No thromboembolic events and pericardial effusion occurred. All patients underwent transesophageal echocardiography 45 days post-procedure. Residual flow ≤3mm was found in 3 patients.

Conclusion: Sequential closure of left atrial appendage and PFO is safe, potential reducing the procedural complications from transseptal puncture.