

Surgical and Percutaneous Left Atrial Appendage Intervention: Silent Cerebral Embolism Considerations

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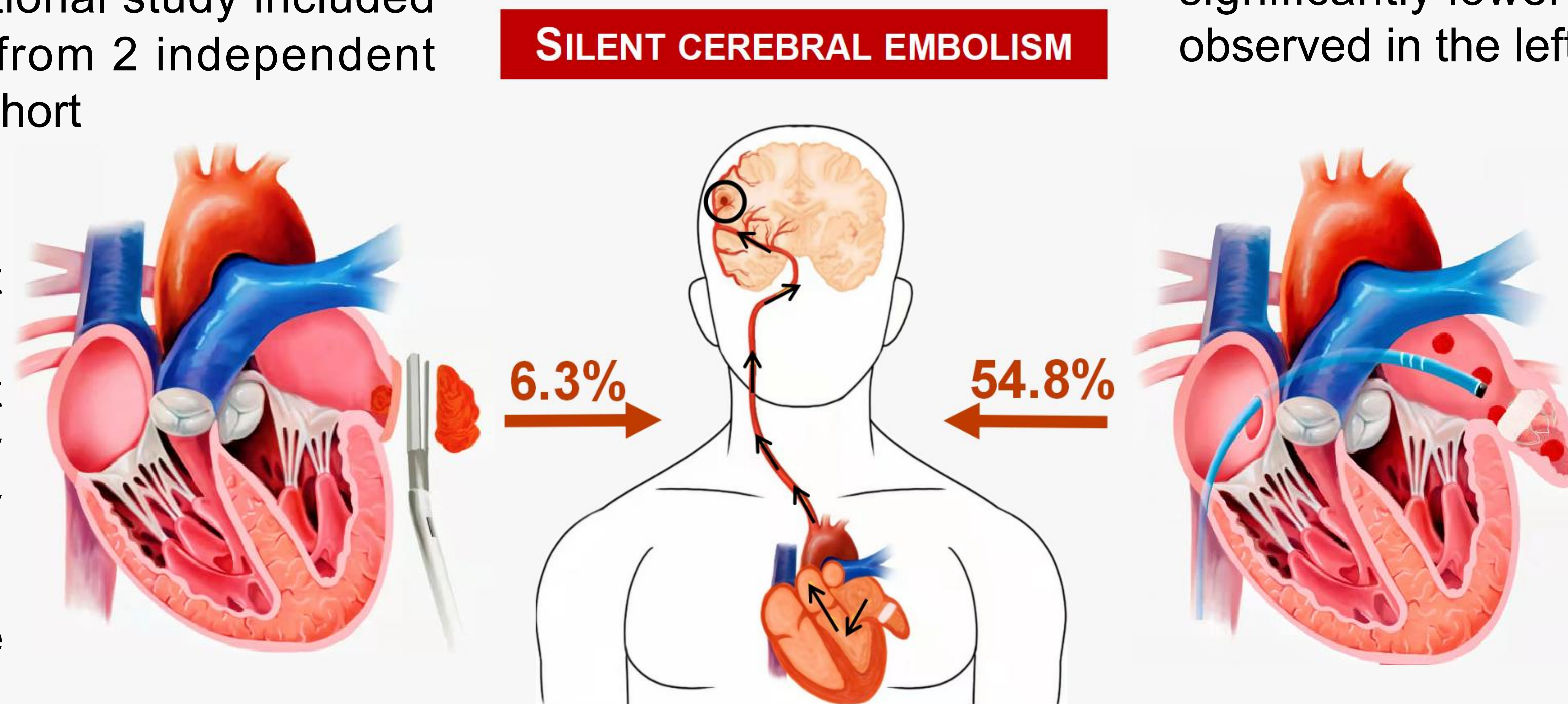
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BACKGROUND: Left atrial appendage intervention is an alternative to oral anticoagulation for thromboprophylaxis in atrial fibrillation. The aim of our study was to compare the incidence of silent cerebral embolisms after surgical and percutaneous intervention and to identify the risk factors for procedure-related silent cerebral embolisms after intervention.

METHODS: This prospective observational study included consecutive atrial fibrillation patients from 2 independent cohorts (left atrial appendage excision cohort and left atrial appendage occlusion cohort) between September 2018 and December 2020. All patients underwent cerebral magnetic resonance imaging before and after the procedure. Silent cerebral embolism was defined as new focal hyperintense lesions detected only on postprocedural sequence.

RESULTS: Thirty-two patients from the left atrial appendage excision cohort and

CONCLUSIONS: The incidence of procedure-related silent cerebral embolism was strikingly lower in patients with left atrial appendage excision than in patients with occlusion. More cardiovascular comorbidities, longer occlusion placement time and lower activated clotting time level were significantly associated with the development of procedure-related silent cerebral embolism.



42 patients from the occlusion cohort were enrolled. A significantly lower incidence of silent cerebral embolism was observed in the left atrial appendage excision cohort as

compared with occlusion (6.3% vs. 54.8%, $p < 0.001$). In the left atrial appendage occlusion cohort, patients who developed silent cerebral embolism after the procedure had significantly higher CHA₂DS₂-VASc scores (OR 2.172; 95% CI 1.149–4.104; $p = 0.017$), longer occlusion placement time (OR 1.067; 95% CI 1.018–1.118; $p = 0.006$), and lower peak activated clotting time level after transseptal puncture (OR 0.976; 95% CI 0.954–0.998; $p = 0.035$).