Left atrial appendage can still cause clinical events after ligation

Cem Koz, Oben Baysan*, Mehmet Yokuşoğlu, Mehmet Uzun, and Celal Genc

Department of Cardiology, Gulhane Medical Military Academy, Etilk, Ankara, Turkey

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We present a 71-year-old female patient with transient ischaemic attack. A thrombus located at the stump of previously ligated left atrial appendage was suspected as the cause of event.

KEYWORDS
Left atrial appendage ligation; Thrombus

Introduction
On the basis of previous findings, a thrombo-embolic event, although rare, can be anticipated after left atrial appendage (LAA) ligation.1,2 We report a patient with transient ischaemic attack without any risk factors except a thrombus located at the previously ligated LAA stump.

Case report
A 71-year-old female who had previous mitral valve surgery with St Jude No. 23 valve 2 years before the event was admitted to our emergency service with near-syncope and dizziness. According to her previous registration file, LAA was ligated with suture technique at that time. The patient has been on warfarin treatment since the operation. Apart from mechanical S1 sound and weakness of the left arm, her physical examination was unremarkable. ECG was in sinus rhythm with non-specific ST-T changes. The INR value was 2.7. The transthoracic echocardiographic examination revealed that the functions of both ventricles were normal (left ventricular ejection fraction: 54%) with normally functioning mitral prosthetic valve (mitral valve area was 2.4 cm²). A cerebral embolic event was suspected following an emergency neurology consultation; however, the computerized tomography data were not diagnostic. Consequently, we decided to perform transoesophageal echocardiographic examination. Although the mitral valve was seen to have mild central regurgitation, there was a mass suggesting thrombus located at the LAA stump (Figure 1). Any sign of jet traversing the ligated LAA-LA body border has not been determined. Her symptoms disappeared soon after admission and the diagnosis of transient ischaemic attack was confirmed by a senior neurologist. On the basis of these findings, we intensified the warfarin therapy with target INR 3.5 and added low-dose aspirin to treatment plan. She is still on follow-up period with no recurrent event.

Discussion
Left atrial appendage is regarded as the major site of embolic events in patients with atrial fibrillation.3 Preventive measures against these events include various drugs and methods such as warfarin and LAA ligation that can be used during mitral valve or bypass surgery.4 Although direct LAA suturing method is a frequently used approach in clinical practice, it is proposed to have 36% incomplete ligation rate.5 Use of stapling device has better complete ligation rate (72%), but both techniques have thrombo-embolic event rate that cannot be neglected.1,2 Incomplete LAA ligation and/or absence of effective anticoagulation treatment have been reported as the major risk factors for embolic events in patients with this procedure.2,6 However, any sign suggesting incomplete LAA ligation was not detected in this case and INR level was within target levels.7 Srichai et al.8 reported an inverted LAA mimicking thrombus, but the mobile mass in that report was located at the LA limbus and was associated with high mitral regurgitation jet. We excluded this possibility in our case due to different anatomic location, immobility of the mass, and the absence of regurgitant jet. What was responsible for thrombus in our case was not clear but we speculated that minor LA tears during mitral valve surgery and LAA ligation might have led to the lesion. In our opinion, LAA ligation should be performed with less

* Corresponding author. Mehterler Sk. Erkilinc Apt. No:7/7, Etilk, Ankara, Turkey. Tel.: +90 312 325 86 41; fax: +90 312 304 42 50.
E-mail address: obenbaysan@gmail.com

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invasive techniques which do not damage LA as recently reported by Kiaii et al.\textsuperscript{9}

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Supplementary material

Supplementary data associated with this article can be found in the online version.

References


