

Surgical treatment of paradoxical embolism leading to pulmonary embolism and cerebrovascular stroke

Pulmoner emboli ve serebrovasküler inmeye neden olan paradoksal embolinin cerrahi tedavisi

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Ischemic stroke in the absence of conventional risk factors for cerebral vascular disease suggests alternative mechanisms for stroke.^[1] These unidentified or unproven strokes are known as cryptogenic stroke and the most common cause of cryptogenic stroke is paradoxical embolism due to the patent foramen ovale.^[2] Paradoxical embolism or venous thromboembolism transit from the right-to-left cardiac chambers may occur through interventricular,

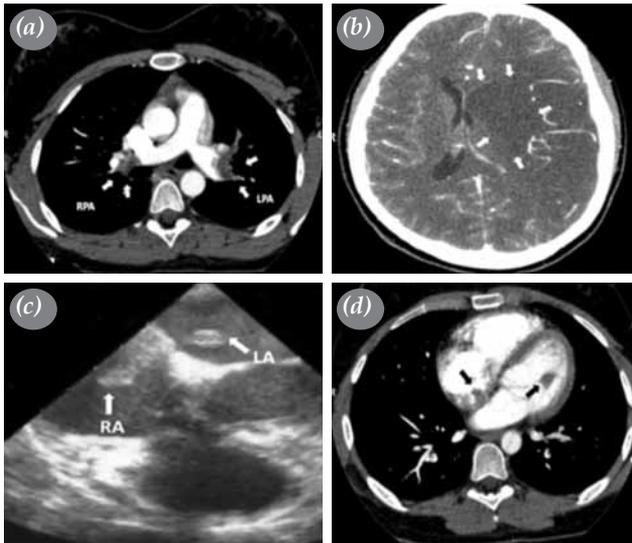


Figure 1. Computed tomography images. (a) A pulmonary embolus extending into the bilateral pulmonary arteries (b) left middle cerebral artery ischemic zone shifting to the right lobe (c) transthoracic echocardiography imaging of a free-floating thrombus in both atrial chambers and (d) a tomographic image of the thrombus prolapsing into the left ventricle.

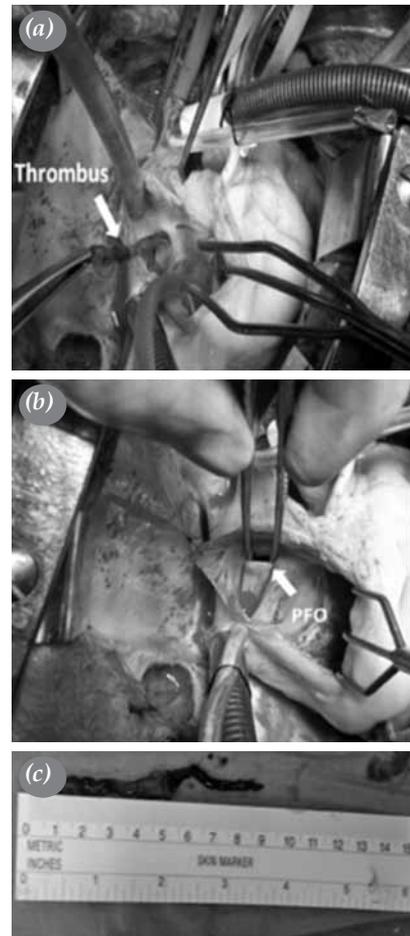


Figure 2. (a) Removal of the large free-floating thrombus via right atriotomy incision. (b) Presence of patent foramen ovale by direct visualization, and (c) extracted thrombus measuring 9 cm in length.



Available online at
www.tgkdc.dergisi.org
doi: 10.5606/tgkdc.dergisi.2016.12506
QR (Quick Response) Code

Received: October 20, 2015 Accepted: December 03, 2015

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interatrial or pulmonary arteriovenous malformations. In this article, we present a 21-year-old female case with a history of deep vein thrombosis was admitted to the hospital with a sudden-onset dyspnea and right-sided hemiplegia with aphasia. A large proximal pulmonary embolism and an ischemic zone of the left-sided middle cerebral artery was diagnosed by computed tomography (Figure 1a, b). Transthoracic and transesophageal echocardiography demonstrated a right atrial mass and a 7-cm thrombus attached to the interatrial septum extending from the right atrial to the left atrium, prolapsing into the left ventricle, through a patent foramen ovale (Figure 1c, d). She underwent surgical embolectomy for mobile trombus in the cardiac chamber and pulmonary arteries under cardiopulmonary bypass (Figure 2a-c). Right atriotomy was performed for the mass in the right and the left atrial chambers. An additional main pulmonary incision was done for surgical pulmonary embolectomy. Inferior vena cava filter was inserted

perioperatively. Postoperative period was uneventful. She was discharged on life-long warfarin therapy with a target international normalized ratio of 2.5 to 3.5.

Declaration of conflicting interests

The authors declared no conflicts of interest with respect to the authorship and/or publication of this article.

Funding

The authors received no financial support for the research and/or authorship of this article.

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