



EVEN A SMALL PERI-DEVICE LEAK LESS THAN 5 MM AFTER LEFT ATRIAL APPENDAGE CLOSURE WITH WATCHMAN CAN CAUSE DELAYED THROMBOSIS INSIDE THE APPENDAGE

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Background:

Left atrial appendage closure (LAAC) is becoming an alternative therapy other than anticoagulation for the patients with atrial fibrillation who are at high risk of bleeding. The regimen of the antithrombotic therapy after LAAC depends on the degree of the peri-device leak. Generally, anticoagulation can be discontinued if the leak is less than 5 mm and switched to antiplatelet therapy only. However, the relationship of the leak and the mechanism and the thrombus formation inside the left atrial appendage (LAA) after LAAC is still unclear.

Objectives:

The aim of the present study is to elucidate the relationship between the peri-device leak detected by transesophageal echocardiography (TEE) and the thrombus formation inside the LAA after LAAC detected by computed tomography (CT).

Methods:

Of the 28 patients who underwent percutaneous left-ear closure at our hospital, 21 patients who could obtain contrast-enhanced CT after device implantation were reviewed (7 patients did not undergo CT due to renal insufficiency). The mean age of the patients was 74 years. The mean CHADS2 score was 2.9, the mean HASBLED score was 3.3, and the average time of CT imaging was 366 days after the device implantation. Contrast-enhanced CT with electrocardiogram synchronization was classified into the following four categories based on contrast findings in the LAA. 1: Complete thrombus inside the device and no contrast effect in the left atrial appendage, 2: Complete thrombus inside the device but contrast effect in the left atrial appendage, 3: Incomplete thrombus inside the device (thrombus rate > 50% was defined as 3-1 and <50% was defined as 3-2), 4: No thrombus was observed at all.

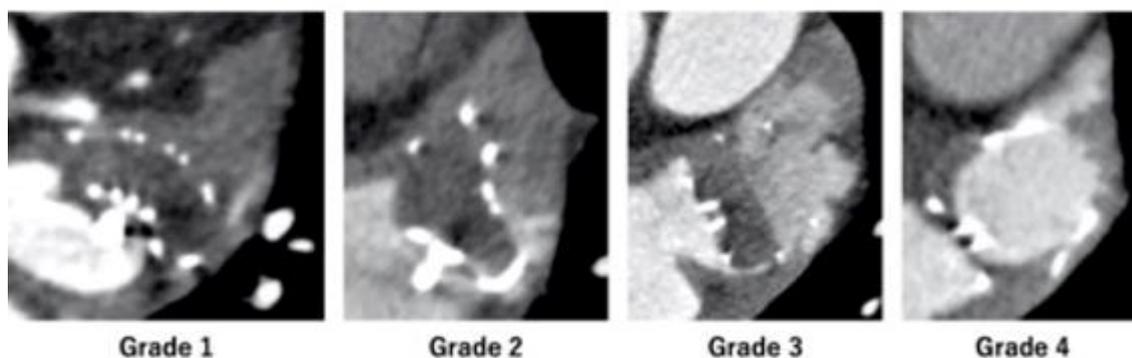
Results:

Grade 1 was 9.1 % (n = 2), Grade 2 was 13.6 % (n = 3), Grade 3 was 68.2 % (n =15), and Grade 4 was 4.5 % (n =1). All Grade 1 cases had no leaks in the transesophageal echo, whereas all Grade 2-4 cases had leaks less than 5mm.

Conclusions:

Since no embolic events were observed in any of the cases, the clinical significance is unclear, but even a leak of 5 mm or less, as defined by the criteria, may lead to incomplete closure of the left ear in the remote phase.

Thrombus grade after LAAC



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