The exam showed the absence of contrast enhancement of this structure, while the adjacent LA homogeneously enhances. Moreover, a delayed scan obtained 3 min after the actual cardiac CT confirmed this finding by demonstrating complete occlusion of the LAA (Fig. 2b). The postoperative course of all patients was uneventful.

In conclusion, we believe this technique is safe and does not damage nearby structures. Moreover, it prevents flow between LAA and LA and does not leave a thrombogenic residual stump remaining in early postoperative. Future imaging studies, made years after procedure, might ensure the effectiveness of this technique.

According to our opinion, this technique can be easily performed in minimally invasive procedures.

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REFERENCES


EDITORIAL COMMENT

Excision or exclusion of left atrial appendage?

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Stroke is one of the leading causes of mortality and morbidity today. In the majority of the cases, stroke results from cardiac emboli predominantly in patients with atrial fibrillation.

Theoretically, the most likely site for generation of thrombus formations as a prerequisite for emboli and stroke is the left atrial appendage (LAA). Here, the three characteristics of Virchow’s triad are realized, especially flow abnormalities, besides those of the vessel wall and constituents in blood [1]. Therefore, it makes theoretical sense to exclude the LAA in order to prevent stroke as recommended in the ACC/AHA Guidelines [2] during mitral valve surgery and MAZE procedures, although some authors argue that LAA exclusion is not the whole story [3] of stroke prevention and that strokes occur also after LAA occlusion, related to unsuccessful exclusion [4] or other sources.

In this issue, Hernandez-Estefania report on a special technique for LAA occlusion including invagination and double-suture technique [5]. A purse-string suture is used to delineate the rim of the orifice which is facilitated by the invagination of the LAA. Although this might help to better define the borders of the os of the LAA, a clearly defined ridge is not present at the anterior and inferior borders of the LAA os [6]. Furthermore, the rim of the os is smooth [6]. Thus, there may be few firm tissues to anchor securely the sutures for occlusion. In addition, the oval area of the os is tagged together by the sutures, potentially creating tension forces in the tissue tending to reset the oval shape of the os. These are the factors that might cause some kind of re-opening of the LAA orifice years after the operation [4]. Whether this occurs with the proposed LAA occlusion technique remains to be seen. Therefore, long-term follow-up is needed to decide whether this is an effective technique for LAA occlusion.

A more definite approach would be the complete excision of the LAA. Since our negative results years after direct suture...
closure of the LAA [7], we switched our technique to complete excision of LAA. The LAA atriotomy is closed between two 4–5 mm wide strips of Teflon felt to reinforce the fragile tissue, using a mattress suture followed by a continuous over and over suture to definitely close the resection line. The excision technique was reported to yield the most successful results compared with exclusion by suture or stapling [4]. In that report, 27% of patients in the excision group showed a residual stump of >1 cm, but the author did not find thrombus material in the residual stump at follow-up investigation, indicating that this residual stump at the base may not generate thrombus formation.

Taken together, it would be appropriate for the proposed occlusion technique to stand the test of time for final judgment of its effectiveness. The most successful technique still remains the excision of the LAA.

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