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# Epicardial clip closure of the left atrial appendage: Reply

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Dear Authors,

We received from the Editor your comments regarding the article entitled "Surgical Clip Closure of the Left Atrial Appendage".<sup>1</sup> We appreciate your interest and criticism and we carefully read your letter as well as the manuscript recently published from your group which was used to support your concerns.<sup>2</sup>

In light of the recently published LAAOS III trial,<sup>3</sup> the importance of left atrial appendage closure for stroke prevention is becoming more clear.

Beside these general premises, we totally agree, and literature supports the statement you reported, that incomplete left atrial appendage closure is even worse than no ligation at all.<sup>4</sup> The surgical technique associated with the less favorable outcomes in terms of complete exclusion is reported to be the endocardial oversewing (single or double layer) and non-cutting stapling devices. Suboptimal results were also reported after LAA excision with a residual stump of LAA being detectable in almost 25% of patients although the correlation between residual stump and stroke has not been clearly demonstrated in the literature. As you pointed out, ligation of the LAA is far from being the optimal therapy, with incompetence of complete closure ranging from 25% up to 35%. Considering your interesting comments, we carefully reviewed our manuscript. We already reported the concept of "incomplete closure—increased risk of stroke" as important background concept in the introduction. First reports were published in the very late 1990s and the best closure technique was debated over decades. However, all these papers agreed, again, with the concept that incomplete occlusion/exclusion/ligation do not provide any benefits, conversely, the risk is increased at least of 5- to 10-fold. We considered this notion as "out of the question."

However, in our review we focused exclusively on surgical LAA exclusion by means of epicardial clip which is providing promising results in terms of exclusion completeness. They are showed to be superior when compared to other techniques, both surgical and

percutaneous approaches. The clip closure of the LAA has proven to be safe and produces a standardized, reproducible result.<sup>5</sup>

To ensure complete LAA exclusion, the position of the LAA clip and absence of residual leak can be reviewed through intra-operative trans esophageal echocardiography. In our clinics, this is standard practice. Reviewing the clip position should aid in optimal and definite closure of the LAA.

Finally, as stated in our review, we strongly encourage the continuation of the anticoagulation unless contra-indicated, as repeated also in the LAAOS III Trial and also in concordance with current guidelines.

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