

CORMOS MEDICAL LAA OCCLUDERS - NEW DEVICE FOR INTERVENTIONAL LAA OCCLUSION

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Background:

In western industrialized countries, about 2% of the population are afflicted with atrial fibrillation (AF), the most frequent form of cardiac arrhythmia. AF slows down the blood flow in the Left Atrial Appendage (LAA) and increases the occurrence for thrombogenesis and associated complications due to the ideal surface structure of LAA. People with AF have an up to 15-times higher risk of suffering a stroke.

LAA occlusion is a treatment strategy to reduce the risk for stroke development in patients with AF. Occlusion can be achieved by using of catheter-based closure by LAA-occluders. Different devices are currently on the market, which differ in their construction (with or without proximal disc) and applicability for the different LAA morphologies.

Cormos Medical develop the Cormos Medical LAA Occluders (Fig. 1) in (I) two versions (type I with disc, type II without disc) in different sizes with (II) one delivery system (Cormos Medical steerable introducer) for both product types and (III) a unique anchoring system by 15 to 21 J-hooks for an optimal coverage of the complete spectrum of atrial appendage morphologies with one system.

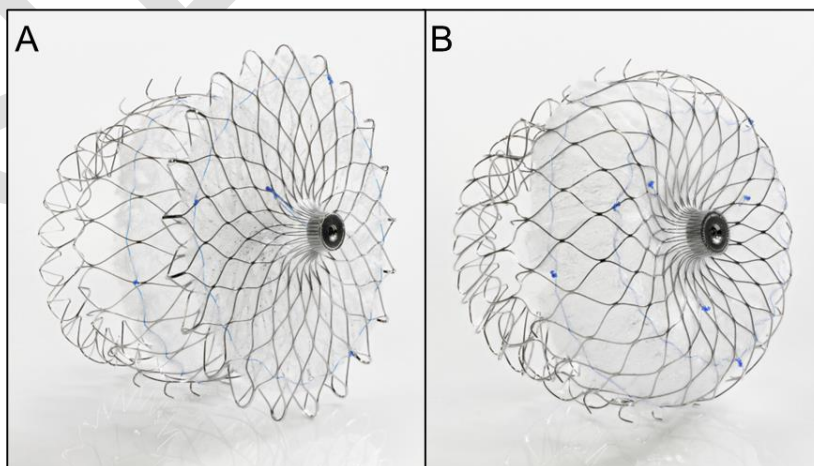


Fig. 1: Cormos Medical LAA Occluders in two versions: Type I with proximal disc (A) and type II without proximal disc (B)

Both systems can be selected after inspection of the LAA in the cath lab, a change of the occluder (type I / II) is possible at any time. All morphologies can be closed over one catheter

access. A decision about the type of occluder can be made shortly before insertion, during the intervention, with the same access system in place, under imaging.

What else is special about this system?

- Flexible adaptation to different LAA depths thanks to the **double membrane system** in the axial direction
- The interaction of the solid hook technology on the outermost circumference of the occluder with the membrane functions results in a **more flexible adaptation** regarding the specific anatomy
- **Electropolished surfaces** (analogous to heart valves) enable lower frictional forces during lock (reduction by about 30%) and therefore easier transport of the occluder in the sheath, but also reduce the risk of thrombus adhesion
- **Discharge of the occluder now in four phases**, 2nd phase with retracted hooks, ensures improved positioning thanks to the possibility of an intermediate check before the final anchoring
- **retrievability in all implantation phases**

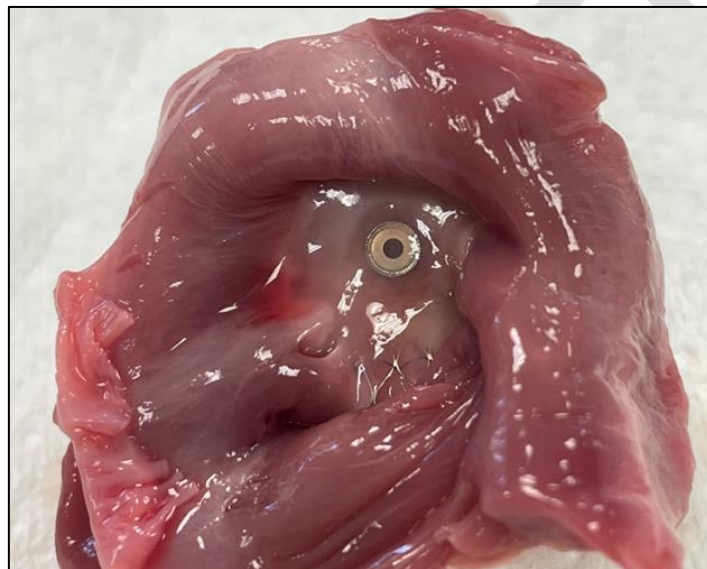


Fig. 2: LAA occlusion in pigs: Explantation of Cormos Medical LAA occluder 5 months after implantations

First animal experiments on domestic pigs showed a successful implantation according to the PASS criteria and an almost complete endothelialization of the device 6 months after implantation. Cormos Medical LAA occluders (Fig. 2).

With its multifunctional occlusion set (LAA occluder with steerable introducer), Cormos Medical is well on the way to significantly improving LAA interventions for both interventional physicians and patients. The focus of development is on being able to safely close all heart shapes with one occlusion system.