



System for occluding a left atrial appendage

The invention relates to an inflatable balloon device for permanent left atrial appendage occlusion. It overcomes the main disadvantage of current commercially available percutaneous LAA occlusion devices that stretch and distend the LAA, which distorts cellular function, and increases certain peptide levels.

Keywords Atrial fibrillation, cardiogenic thrombi, left atrial appendage occlusion, percutaneous

Inventors Prof.Dr.med Rolf Jenni, dipl.-El.Ing ETH and Dr.med.Barbara Stäehli, University Hospital Zurich

Background Atrial fibrillation is the most frequent cardiac arrhythmia worldwide. 90% of cardiogenic thrombi arise in the left atrial appendage (LAA). Hence, LAA removal or occlusion seems to be an appealing option for stroke prevention for high-risk patients with contraindications concerning oral anticoagulation. Different techniques for surgical obliteration, as well as devices (PLAATO, PROTECT AF etc.) for percutaneous LAA occlusion have been developed. However, both removal and occlusion with existing devices have considerable disadvantages: Although previously regarded as a useless appendage, the LAA is nowadays considered a key player in regulating fluid and electrolyte hemostasis. Consistently, it is well documented, that surgical biatrial appendage exclusion significantly reduces certain peptide levels. The main disadvantage of current commercially available percutaneous LAA occlusion devices is, that they stretch and distend the LAA, which distorts cellular function, and increases certain peptide levels. Thus there is a need for a LAA occluder device that prevents the LAA from distention.

Invention The invention relates to an inflatable balloon device for permanent LAA occlusion designed to overcome the above mentioned disadvantages. Using this device, not only the entrance (orifice) of the LAA will be used for fixation of the balloon as with current available occluders, but it is designed to fill in the LAA completely in a form fitting manner without stretching or distending it.



Patent Status Patent application filed

Contact Unitectra, Technology Transfer of University Zurich, Dr. W. Henggeler, Möhrlistrasse 23, CH-8006 Zürich, +41 44 634 44 01, mail@unitectra.ch