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Systematic closure of the left atrium appendage during surgery-the LAACS and LAACS2 randomized studies

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Stroke from thrombi formed in the left atrium appendage (LAA) is the most feared complication of atrial fibrillation (AF), and is preventable with anti-coagulant medicines. AF with onset the days after heart surgery is considered a phenomenon rather than a definite diagnosis, and anti-coagulation is not systematically recommended in current guidelines. We hypothesize that; closure of the LAA during surgery may protect the brain regardless of known AF. Between 2010 and 2015 we included 205 patients, of whom 185 were randomized 185 to closure of the LAA with double suture, or control, and followed the patients for up to six year (mean 3, 7 years). Investigations included brain MRI before the operation, at discharge after the operation and, at least six months after surgery, and findings of new silent brain infarctions (SBI) in clinical settings. 141 patients followed the protocol, of whom 14 (18%) reached primary events (stroke, TIA or silent infarctions) occurred in the control group vs. 4 (6%) in the LAACS group (hazard ratio 0.3; 95% CI: 0.1 – 1.0, p=0.05). In the total cohort, 163 (86.2%) had no history of AF, of whom 80 (49.1%) developed new-onset AF. Later AF occurred in 35 of those (43.8% recurrence) and, in six additional patients. The moderate number of patients in the LAACS trial does not allow drawing definite conclusions. Hence, we seek to further investigate our hypothesis in a larger trial (N 2000) with homogenous closure of the LAA with clips, and end-point of stroke/TIA.

Biography

Helena Dominguez is a Consultant Cardiologist at the Hospital of Bispebjerg-Frederiksberg since 2014, and Associate Professor at the Institute of Biomedicine of the Health Faculty, University of Copenhagen. Her research covers translational science in two main areas: vascular function, with special focus on insulin resistance, and; use of eHealth technologies to improve patient management, with special focus on frail elderly, heart failure and atrial fibrillation. Her teaching responsibilities: Lung and Heart Physiology, and Electrocardiography and Echocardiography exercises for medicine students. Postgraduate courses target PhD students within the area of vascular insulin resistance and methods to study vascular function.

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