

Atrial fibrillation and hypercoagulability

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Propositions for the thesis:

**“Atrial fibrillation and hypercoagulability:
a two-way street with many side-roads”**

Elisa D’Alessandro

Public defense on Thursday 20 October 2022 at 13:00h

1. Factor Xa induces pro-inflammatory responses in human cardiac fibroblasts via PAR-1 activation, which is the most abundantly expressed PAR isoform in these cells. *(This thesis)*
2. The goat model of persistent atrial fibrillation (AF) represents an exceptional tool to study the “long-term” effect of AF on the coagulation system. *(This thesis)*
3. Systemic factor Xa-inhibition during AF locally protects the heart from atrial structural changes that play a crucial role in the pathogenesis of AF. *(This thesis)*
4. Assessment of coagulation activity in peripheral blood is insufficient to estimate the impact of pro-coagulant effects locally in the atria or in the interstitial space of the atrial myocardium. *(This thesis)*
5. Future modifications of the Calibrated Automated Thrombogram assay will contribute to unravel more complex aspects of the AF-related hypercoagulable state, which may go beyond the quantification of generated thrombin.
6. Early anti-coagulation in patients with AF may become a valid asset to target AF progression.
7. The atria act as the 'coalminers canary' of the circulation. *(Harry Crijns)*
8. iPSC technology offers an elegant opportunity for more innovative, deeper and stronger science.
9. Today, we have discovered that everyone is born with dozens of genetic glitches. There are no perfect human specimens. But not all our glitches are the same, so one treatment often does not fit all sufferers of a given disease. *(Francis S. Collins)*
10. It takes all the running you can do to keep in the same place. *(Lewis Carroll)*
11. Never worry about data. *(Ulrich Schotten)*

Propositions for the thesis:

**“Atrial fibrillation and hypercoagulability:
a two-way street with many side-roads”**

Billy Scaf

Public defense on Thursday 20 October 2022 at 14:30h

1. Thrombin and Factor Xa activate cardiac fibroblasts and contribute to the process of cardiac remodeling. *(This thesis)*
2. The Calibrated Automated Thrombogram assay measures the overall clotting potential of the sample, but not the actual ongoing coagulation activity. *(This thesis)*
3. The goat model of atrial fibrillation (AF) allows the investigation of changes in the heart and blood that occur within days to months of AF. *(This thesis)*
4. Direct oral anticoagulants may be protective against cardiac structural remodeling processes. *(This thesis)*
5. AF and stroke share many risk factors, whose underlying pathological processes can reinforce the development and progression of both cardiovascular conditions. *(This thesis)*
6. The consequences for patients on long-term treatment with direct FXa-inhibitors merit further investigation.
7. Lifestyle changes can result in great cardiovascular health benefit, but may not represent low hanging fruit for everyone.
8. Representative histological images are not always the most representative.
9. Always judge a heart by its scars.
10. Als de pieken de dalen niet meer overwinnen, weet je dat het tijd is om opnieuw te beginnen.
11. Never worry about data. *(Ulrich Schotten)*