

Gecombineerde wetenschappelijke stage en coschap Neuroradiologie

Blood flow patterns in intracranial aneurysms

An intracranial aneurysm is a localized dilation of a blood vessel in the brain. A small aneurysm produces little or no symptoms, a large aneurysm may produce symptoms like headache and nausea. Intracranial aneurysms pose a huge threat to patients. Rupture of an intracranial aneurysm causes a subarachnoid hemorrhage with potential devastating effects.

At the AMC, endovascular coiling can be performed to occlude aneurysms to stop its growth and thus prevent rupture. However, the procedural risk has to outweigh risk of aneurysmal rupture. Analyses of intra-aneurysmal blood flow patterns, as assessed with phase-contrast MRI or computational simulations have shown that rupture is more likely in aneurysms with instable flow. However, "stability" is difficult to measure and is commonly used as a qualitative category.

During this internship, the student will analyze and measure aneurysmal flow patterns and correlate these measures with categories as determined by neuroradiologists. These measurements will be associated with rupture status to provide a novel means to estimate rupture risk of these aneurysms.

Supervision by Prof. Dr. Charles Majoie & Dr. Henk Marquering

Email: c.b.majoie@amc.uva.nl

h.a.marquering@amc.uva.nl