

Peripheral Arterial Disease

Principal Investigators: Barbara Kollerits and [Florian Kronenberg](#)

Background:

Patients with peripheral arterial disease have a tremendous risk for cardiovascular and cerebrovascular complications.

- 40% to 60% of these patients suffer also from coronary artery disease.
- A major problem arises from the circumstance that coronary artery disease might be asymptomatic, undetected and untreated for a prolonged time if exercise of the patients is severely limited by claudication.
- The fate of patients with intermittent claudication is less limited by the local outcome in the leg than by the systemic outcome of coronary and cerebrovascular vessels. Only 50% to 60% of all patients will be alive after 5 years without suffering a new cardiovascular event (see Figure). A prognosis that is not better than that following resection of a Duke's B carcinoma of the colon.

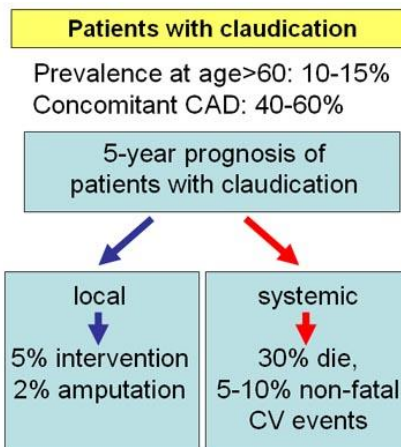


Figure: Prevalence and 5-year fate of patients with intermittent claudication.

Study objectives:

To identify genetic and biochemical risk factors associated with intermittent claudication, progression of intermittent claudication and with the highest risk for cardiovascular events. These investigations include also [genome-wide association studies](#) to identify genes associated with ankle-brachial-index (ABI). These latter studies are done within two large GWAS-consortia (CARE and CHARGE).

Study populations:

We have two study populations available for our investigations:

- CAVASIC-Study (**C**Ardio**V**AScular disease in patients with Intermittent **C**laudication): case-control study with prospective observation period including about 250 patients with intermittent claudication (stage II of Fontaine) and 250 age- and sex-matched controls without peripheral arterial disease.
- KORA Studies F3 and F4: KORA (Cooperative Health Research in the Region Augsburg) is a regional research platform in the German city of Augsburg and the two adjacent counties, for

population-based studies. The population-representative surveys F3 and F4 included each about 3000 individuals. From almost all participants of F3 and from all participants of F4 aged 53 years and above (about 2000) we have ankle-brachial-index (ABI) measurements as well as Edinburgh questionnaires by standardized interviews available.

Team members:

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Main collaborators:

KORA Study Group, Bruneck Study, CARE and CHARGE consortium

Selected Publications:

1. Rantner B, Kollerits B, Anderwald-Stadler M, Klein-Weigel P, Gruber I, Gehringer A, Haak M, Schnapka-Köpf M, Fraedrich G, Kronenberg F: Association between the UGT1A1 TA-repeat polymorphism and bilirubin concentrations in patients with intermittent claudication: results from the CAVASIC Study. *Clinical Chemistry* 54:851-857, 2008. [\[Pub-Med\]](#)
2. Kollerits B, Heinrich J, Pichler M, Rantner B, Klein-Weigel P, Wölke G, Brasche S, Strube G, Kronenberg F: Intermittent claudication in the Erfurt Male Cohort (ERFORT) Study: Its determinants and the impact on mortality. A population-based prospective cohort study with 30 years of follow-up. *Atherosclerosis* 198:214-222, 2008. [\[Pub-Med\]](#)
3. Lamina C, Meisinger C, Heid IM, Löwel H, Rantner B, Koenig W, Kronenberg F, for the KORA Study Group: Association of ankle-brachial index and plaques in the carotid and femoral arteries with cardiovascular events and total mortality in a population-based study with 13-years of follow-up. *European Heart Journal* 27:2580-2587, 2006. [\[Pub-Med\]](#)