German Chronic Kidney Disease (GCKD-Study): National Cohort Study on Chronic Kidney Disease

Aims and Structure

Chronic kidney disease is an increasing health problem, affecting more than 10% of the population. Chronic kidney disease can progress to end stage renal disease with requirement for dialysis or transplantation. Patients suffering from chronic kidney disease also have a disproportionate risk of cardiovascular diseases including myocardial infarction and stroke. However, the loss of kidney function and the development of cardiovascular disease in the setting of renal disease are highly variable. Factors determining progression and complication rates are to a large extent unknown. The number of randomized controlled trials in nephrology lags behind all other medical disciplines. This is partly due to the fact that the knowledge about the natural course of chronic kidney disease is limited.

To address this problem, the FAU is coordinating a large prospective observational cohort study in Germany together with the universities of Aachen, Berlin, Freiburg, Hannover, Heidelberg, Innsbruck, Jena, München, Regensburg, and Würzburg and a network of approximately 150 nephrologists from different regions all over Germany.

The study aims at gaining important insights on the heterogeneity of disease courses by observing a large number of patients over a long period of time, opening ways for a more deliberate and focused application of existing diagnostic and therapeutic procedures, and for developing novel and more effective therapies.

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Research

A total of 5,217 patients with impaired kidney function have been enrolled between 2010 and 2012 and will be observed over a period of up to ten years. With this number of patients, the GCKD study represents the largest prospectively followed cohort of patients with chronic kidney diseases worldwide. Observations on the course of the disease, symptoms, and complications will be correlated with genetic information and findings from other bioanalytical approaches applying modern biostatistical methods of data analysis. A large central biobank has been established in Erlangen. The study aims at establishing valid associations between biomarkers and progression. It will also provide novel insights to the question why patients with kidney disease have a tremendously increased risk of cardiovascular diseases.

Another research focus of the GCKD study is placed on the implications and consequences of kidney impairment on general health and quality of life. These findings on disease course and associated complications will hopefully help to improve the overall prognosis, and to postpone or avoid onset of dialysis.