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GENETIC AND LIFESTYLE FACTORS IN BREAST CANCER PROGNOSTICATION

1. Better understanding of the factors determining breast cancer outcome could lead to improved prognostication at the time of diagnosis, better stratification of patients into treatment subgroups and improvement of prediction models. (this thesis)
2. Even within subtypes prognosis can vary, which might be further explained by inherited genetic variation and by hormonal, reproductive, and lifestyle breast cancer risk factors. (this thesis)
3. Since in studies where the outcome of interest is overall or breast cancer-specific survival the main determinant of the statistical power is the number of all-cause and breast cancer-specific deaths, respectively, a low number of deaths will reduce the ability to detect association, particularly at the stringent GWAS level ($P\text{-value} < 5E-08$). (this thesis)
4. Next to increasing the sample size, also “focussing on a smaller cohort of patients with a particular breast cancer subtype may increase power by reducing genetic heterogeneity”. (Kadalayil et al. Nature Communications 2017, adapted)
5. By modeling all events of interest together, the multi-state model gives insight on how intermediate events, such as contralateral breast cancer, affects survival. (this thesis)
6. Genotyping of *CHEK2* c.1100delC in patients of ongoing clinical trials would allow the evaluation of treatment response in detail and determine any impact of the *CHEK2* c.1100delC variant on the efficacy of breast cancer treatment. (this thesis)
7. Better measurements of lifestyle risk factors via apps and smart watches, which are increasingly being collected, could be of further help in establishing robust associations with cancer-related outcomes. (this thesis)
8. Further studies investigating the potential impact of germline genetic variants on breast cancer treatment-related toxicity and treatment response are warranted.
9. The things that are worth achieving usually take a substantial amount of time and effort.
10. Progress is never a linear process. Sometimes we need to take some steps back in order to be able to finally move forward.