Jianguang Ji
Dr. sc. hum.

Survival in Common Cancer is Familial, Suggesting Heritable Causation

Geboren am 16. 08. 1973 in Hebei, VR China
Diplom der Fachrichtung:
-Medizin am 07.1997 an Zhangjiakou Medical College, VR China
- Public Health am 07.2000 an der Universität Chinese Academy of Preventive Medicine, VR China

Promotionsfach: Abteilung von Moleculargenetische Epidemiologie, DKFZ
Doktorvater: Prof. Dr. med. Dr. Kari Hemminki

Recent evidence suggested that the constitutional genetic background of the cancer patient might be essential for metastatic ability and prognosis. When family members (parents and offspring), who share 50% of the total genes, are diagnosed with the same cancers, they would have a similar survival experience, i.e., either the good or the poor prognosis tends to be familial between family members. However, to our knowledge, there was no population based data to examine this issue. The purpose of this thesis was to investigate if cancer survival among parent and offspring pairs was concordant, using the nation-wide Swedish Family-Cancer Database to estimate hazard rates (HRs) for cause-specific and overall survival in children and parents, respectively, according to their probands' survival status. HRs show the probability of death in the study group compared the reference group; when it is below 1.0, the risk of death is lower than the reference group. Compared to children whose parents had a poor survival, children with good parental survival had a HR lower than 1.0. HR was significantly decreased among cancers in the breast (HR 0.65, 95%CI 0.46-0.92), prostate (HR 0.62, 95%CI 0.41-0.94), bladder (HR 0.27, 95%CI 0.07-1.00) and kidney (HR 0.35, 95%CI 0.13-0.94). When the analysis was reversed and HRs were derived for parents, the concordance of good and poor survival remained. The results are consistent in showing that both good and poor

survival aggregate in families in all cancer sites we examined. Genetic factors are likely to contribute to the results. These observations call for intensified efforts to consider heritability as one mechanism regulating prognosis in cancer patients.