Improvement of relative survival in elderly patients with acute myeloid leukaemia emerging from population-based cancer registries in Switzerland between 2001 and 2013

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Acute Myeloid Leukaemia (AML) is a rare and heterogeneous haematological malignancy with increasing incidence in the elderly. We performed a population-based, observational analysis of AML cases reported to the Cantonal Cancer Registries in Switzerland. Data was aggregated by the National Institute for Epidemiology and Cancer Registration and stratified for the two time periods 2001-2007 and 2008-2013. Overall, 2351 new AML cases were registered with a stable age-standardised incidence rate (3.0 [95 CI: 2.8-3.2] per 100,000 person-years). This indicates that our observed raise of annual AML cases (+10.9%) is mainly related to demographic ageing and not to an increase of age-specific risks. The fraction of non-classifiable AML cases decreased over time (54.6% to 41.8%) but remained high in elderly patients (65-74yrs: 44%; 75-84yrs: 54.2%, 85+yrs: 59.1%), suggesting less accurate diagnostics and reporting with increasing age. 5yrs relative survival (RS) correlated with AML risk class (favorable: 61.7%-68.4%; adverse risk: 11.4%-21.9%) and age (<65yrs: 42.6-43.3%; 75-84yrs: 2.0-3.0%), but improved only modestly overall (19.2% to 23.3%). Interestingly, we identified a significant improvement of RS in patients aged 65-74yrs (5yrs: 5.2% to 13.5%; p<0.001). As surrogate for changes in management, we found an increase of allogeneic haematopoietic stem cell transplantations (1.4 to 7%) and clinical trial activities (25 to 29%) for elderly AML patients during the observation period. Our analysis indicates that recent progress made in management of elderly AML patients results in an improvement of survival on a population-based level in Switzerland and that therapeutic nihilism is not justifiable.