This study aimed to investigate the association of biomarkers among circulating pro-inflammatory cytokines with all-cause mortality in elderly community dwellings of the MEMO study, Germany. All-cause mortality (cancer, cardiovascular diseases (CVD), and other causes of death) was assessed in a general population sample (N = 385) of the elderly (age 65-83 years) 9 years after baseline assessment in 1998. As markers of inflammation, a variety of cytokines (IL-1beta, IL-4sR, IL-6, IL-8, IL-10, IL-12, TNF-alpha) were assessed in serum. Cox proportional Hazard model was used to estimate the association of cytokines with all-cause mortality over 9 years. In total, 110 deaths had occurred during follow-up (cancer N = 36; CVD N = 56; other = 18). Deaths were more frequent in male (N = 76, 37.4%) as compared to females (N = 40, 21.9%; p = 0.001). Among individual cytokines, IL-1 beta, IL-6, IL-8, IL-10, and TNF-alpha were associated with all-cause mortality, of which IL-6, IL-8, and IL-10 remained significant after adjusting for confounders. When the upper tertiles of these cytokines were compared to the lower tertiles, only IL-6 was consistently related to all-cause mortality independently of the level of adjustment and showing a dose-response relationship between IL-6 tertiles and risk of death. This effect originated in the male population. The study shows that IL-6 is a powerful predictor of all-cause mortality.
mortality in male elderly community dwellings. Higher levels of IL-6 may reflect a chronic low-level systemic inflammation prospectively increasing the risk of death in the elderly.