

Serum 25 hydroxyvitamin D and total mortality of women diagnosed with breast cancer

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Abstract

Background: Limited data are available on the effect of vitamin D status among women with breast cancer (BC). Using the AGES-Reykjavik cohort, our aim was to examine whether higher prediagnostic vitamin D status as well as higher vitamin D status among those already diagnosed with BC is associated with lower total mortality.

Methods: Participants were 2962 women aged 66-97 years, with information on 25-hydroxy-vitamin-D (25-OHD) measured at study entry (2002-2006). Adjusting for potential confounders, we used Cox proportional hazard regression models to analyze total mortality by serum levels of 25-OHD, using quartiles.

Results: There were 199 women with BC at entry to the study with mean age at diagnosis (SD) of 64.4 (10.6) years. Additionally, 96 women were diagnosed with BC after the blood draw with mean age at diagnosis of 81.2 (6.5) years. Among those with BC before blood draw, 97 women (48%) died during follow-up until the end of 2013. Among those diagnosed after study entry 36 women (38%) died during follow-up.

Compared with BC patients in the lowest quartile (≤ 34 nmol/L) those in the second quartile had lower risk of overall mortality (hazard ratio (HR) = 0.43 95% CI: 0.21 - 0.85). Compared with women in the lowest prediagnostic quartile, those in the highest (≥ 65 nmol/L) had lower risk of overall mortality (HR = 0.24 95% CI: 0.06 – 0.99).

Conclusion: Higher serum 25-OHD may be associated with improved survival among women with BC, with greater level needed if the disease is diagnosed in later life.