



Mortality following the diagnosis of a vertebral compression fracture in the Medicare population.

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**BACKGROUND:** Vertebral compression fractures in women are associated with increased mortality, but the generality of this finding, as a function of age, sex, ethnicity, and region, among the entire elderly population in the United States remains unclear. The objective of this study was to assess the survival of the Medicare population with vertebral compression fractures. **METHODS:** We conducted a retrospective data analysis of Medicare claims generated by a 5% sample of all Medicare enrollees from 1997 through 2004. The patient sample consisted of all 97,142 individuals with a new diagnosis of vertebral compression fracture from 1997 through 2004. Controls were matched for age, sex, race, and Medicare buy-in status, with a five-to-one control-case ratio. The survival of a patient was measured from the earliest date of a new fracture until death or until the end of the study. The patients with a fracture were compared with the controls by calculation of the mortality rates, with use of Kaplan-Meier analysis and the Cox regression method. Demographic subpopulation analysis and analysis by comorbidity levels were performed as well. **RESULTS:** Medicare patients with a vertebral fracture had an overall mortality rate that was approximately twice that of the matched controls. The survival rates following a fracture diagnosis, as estimated with the Kaplan-Meier method, were 53.9%, 30.9%, and 10.5% at three, five, and seven years, respectively, which were consistently and significantly lower than the rates for the controls. The mortality risk following a fracture was greater for men than for women. The difference in mortality between the patients with a vertebral compression fracture and the controls was greatest when the patients were younger at the time of the fracture; this difference declined as the age at the time of the fracture increased.

**CONCLUSIONS:** This study establishes the mortality risk associated with vertebral fractures for elderly patients of all ages and ethnicities and both sexes in the Medicare population; however, it does not imply a causal relationship. The difference in mortality between patients with a fracture and controls is higher than previously reported, even after controlling for comorbidities.

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