Author's response to reviews

Title: Mortality and cause of death in hip fracture patients aged 65 or older - a population-based study

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Author's response to reviews:

MS: 9759436863810721 - Mortality and cause of death in hip fracture patients aged 65 or older - a population-based study

Dear Editor,

Thank you very much for the opportunity to revise our manuscript (manuscript titled "Mortality and cause of death in hip fracture patients aged 65 or older - a population-based study").

We have revised the manuscript according to the reviewer's suggestions. Our point-by-point responses are below. We have removed several statements from the text and other changes are highlighted using red font in the manuscript. Please find the removed text at the end of this letter.

We hope that the revisions are acceptable.

On behalf of our research team

Sincerely,

Jorma Panula MD, PhD
Reviewer's report
Title: Mortality and cause of death in hip fracture patients aged 65 or older - a population-based study
Version: 5 Date: 28 March 2011
Reviewer: Jian Sheng Chen
Reviewer's report:
The difference in the risk of death at 6 months between two types of hip fracture is likely due to multiple testing. The authors should be careful in their interpretation of the results in the discussion. In general, the authors should report only one HR for the study if PH assumption was held for the entire study period. This also applies to the analyses of death by gender.

Only one HR is now reported in analyses. The discussion has also been revised.

Level of interest: An article whose findings are important to those with closely related research interests
Quality of written English: Acceptable
Statistical review: Yes, and I have assessed the statistics in my report.
Declaration of competing interests:
I declare that I have no competing interests

The following statements have been removed from the manuscript:

Abstract:
Page 3, Abstract, Results: Age-adjusted mortality after hip fracture surgery was higher in men than in women from the beginning till the end of the follow-up with hazard ratios (HR) and 95% confidence intervals (95% CI) ranging from HR 2.12 (95% CI 1.12-4.01) to HR 1.55 (95% CI 1.21-2.00), respectively, in men compared to women.

Page 3, Abstract, Conclusions: The increased risk of mortality in men after hip fracture compared to women persisted for several years.

Methods:
Page 6, Mortality, first paragraph: Mortality of the hip fracture patients was assessed at 30 days, 6 months, 1 year, 3 years, and 7 years postoperatively, and on December 31, 2007.

Results
Page 8-9, Sex differences in mortality and cause of death in hip fracture patients (n=428)
First paragraph: In age-adjusted models, the HR of death in men compared with women was 2.12 (95% CI 1.12-4.01, p=0.021) at 30 days; 1.99 (95% CI 1.26-3.15, p=0.003) at 6 months; 1.92 (95% CI 1.27-2.90, p=0.002) at 1 year; 1.83 (95% CI 1.40-2.51, p<0.001) at 3 years; 1.57 (95% CI 1.21-2.04, p<0.001) at 7 years; and 1.55 (95% CI 1.21-2.00, p<0.001) at the end of the follow-up (Figure 1).

Page 9, Fracture-type differences in mortality and cause of death in hip fracture patients (n=407)

First paragraph: Age- and sex-adjusted analyses of mortality by fracture type showed increased mortality in cervical hip fracture patients at 6 months (HR 1.86, 95% CI 1.11-3.09, p=0.018) and a tendency towards increased mortality in cervical hip fracture patients at 30 days (HR 2.09, 95% CI 0.95-4.60, p=0.067) compared to the mortality of trochanteric fracture patients. No differences between the two fracture types were observed at 1 year, 3 years, 7 years, or at the end of 2007 (data not shown).

Discussion

Page 10, Discussion, first paragraph: Of hip fracture patients, men and patients with a cervical hip fracture had significantly higher mortality rates than women and patients with a trochanteric fracture.

Page 12, Discussion, fifth paragraph: Findings from analyses by fracture type were not as consistent as those from analyses by sex. Analyses by fracture type, however, showed that hip fracture patients are not a homogeneous group. Increased mortality in cervical hip fracture patients compared to trochanteric fracture patients was noted at 6 months postoperatively and this tendency was the same at 30 days postoperatively.

Page 14, Discussion, last paragraph: Most of these measures, however, are hospital-focused and, based on the findings of the present study, we suggest enhancing long-term cooperation between primary health care and specialist health care to improve survival after hip fracture.

Conclusion

Page 14, Conclusion, last sentence: The increased risk of mortality in men after hip fracture compared to women persisted for several years.

Manuscript, last page:

Figure 1.
Age-adjusted risk of mortality in men (n=86) after hip fracture surgery compared to women (n=252) as hazard ratios (HR) and 95% confidence intervals
d=day, mo=month, y=year