

# Pre-fracture medication use as predictor of 30 day mortality in hip fracture patients



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## Introduction

Hip fractures are associated with increased morbidity, mortality and cost to society. The increased mortality is known to be influenced by factors related to patients- and hospital services, but the correlation between pre-fracture medication usage and mortality is less well explored. The purpose of this study was to examine the correlation between pre-fracture drug usage and 30 day mortality in patients sustaining a hip fracture.

## Materials and methods

Information on age, gender and co-morbidity was collected from the Danish National Hospital Discharge Register on all patients above 60 years, sustaining a hip fracture during the period January 1995 to December 2013. Information on drug usage, was obtained from the National Prescription Database with habitual drug usage defined as two or more redeemed prescriptions one year before the fracture. Groups with less than 1000 users were excluded. Data on date of death were obtained from the National Civil Registration System.

Table 1. Basic characteristics

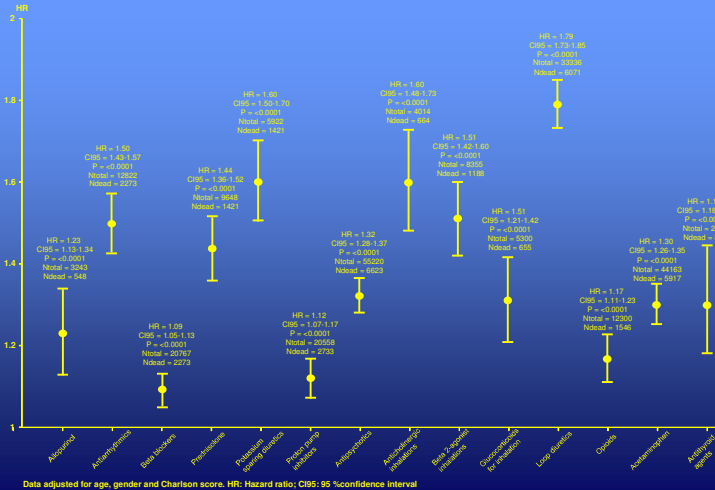
	Alive at 30 days	Dead at 30 days	P
Number (%)	128516 (89.53)	15037 (10.47)	NA
Male/Female (%)	33605 (23.41)/ 94911 (66.12)	6211 (41.30)/ 8826 (58.70)	<0.0001
Mean age (std.dev.)	76.31 (8.78)	82.13 (8.12)	<0.0001
Mean CSI (CI95)	1.11 (1.10-1.13)	1.29 (1.28-1.30)	<0.0001
Mean number of medications (range)	2.30 (0-16)	2.83 (0-16)	<0.0001

CSI=Charlson score index

## Results

143.553 patients were included and a total of 27 drugs/drug groups were identified for analysis, see table 1 for basic characteristics. Significant results were evident for 22 of the groups. The correlation between these and 30 day mortality after adjustment for age, gender and Charlson score is shown in Figure 1 and 2.

Figure 1.: Drugs associated with an increased 30 days mortality in hip fracture patients.



## Discussion

Studies on the association between specific medications and mortality after a hip fracture are sparse. While some studies have been performed most of them investigate relatively small populations. As such, this is one of the first large scale studies on the correlation between pre-fracture medication usage and 30 day mortality after a hip fracture. The information from this study might be used to identify patients at a higher risk of death.

Conflict of interest: The authors declare no conflict of interest.

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Figure 2.: Drugs associated with a reduced 30 days mortality in hip fracture patients.

