Topic: **onderste extremiteit en nabehandeling**
Presentation preference: **Orale presentatie**

Risk factors for 30-days mortality after proximal femoral fracture surgery, an extensive cohort study.

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Introduction

The primary objective of this study was to identify new risk factors and validate previously reported risk factors associated with 30-day mortality after hip fracture surgery.

Method

A prospective hip fracture database was used to obtain data. In total, 3621 patients who underwent hip fracture surgery between 2011 and 2021 were included.

Results

The multivariable analysis identified prognostic risk factors for 30-day mortality after hip fracture surgery, including age 90-100 and >100years (OR4.62 p0.041, OR=11.32 p0.029), male gender (OR2.56 p<0.001), ASA 3 and 4 (OR2.12 p<0.001), dementia (OR1.72 p=0.001), decreased albumin (OR0.94 p<0.001), decreased GFR (OR0.98 p<0.001), residential status of nursing home (OR2.03 p<0.001), higher KATZ-ADL (OR1.09 p0.018) and pneumonia (OR2.41 p<0.001). The 30-day mortality rate was 8.6%.

Conclusion

Significant independent prognostic risk factors for 30-day mortality after multivariable analysis were age above 90 years, gender male, ASA 3 and ASA 4, medical history of dementia, decreased albumin, decreased GFR, residential status of nursing home, higher KATZ-ADL score and postoperative pneumonia.

Table 3. Multivariable analysis of factors associated with 30-day mortality after backward selection

Factor	OR	95%CI	p – value
Age			
<60 (ref.)	-	-	-
61-70	2.10	$0.45 - 9.73$	0.341
71-80	2.31	$0.54 - 9.93$	0.260
81-90	3.52	$0.83 - 14.91$	0.088
91-100	4.62	$1.07 - 19.98$	**0.041**
>100	11.32	$1.28 - 100.26$	**0.029**
Male gender	2.56	$1.97 - 3.33$	**<0.001**
ASA 3 and 4	2.12	$1.44 - 3.14$	**<0.001**
Dementia	1.72	$1.25 - 2.36$	**0.001**
Albumin on admission	0.94	$0.92 - 0.97$	**<0.001**
GFR on admission	0.98	$0.98 - 0.99$	**<0.001**
Residential status			
Home (reference)	-	-	-
Semi-independent nursing home	1.46	$092 - 2.31$	0.106
Nursing home	2.03	$1.44 - 2.87$	**<0.001**
KATZ-ADL	1.09	$1.01 - 1.16$	**0.018**
Delirium postoperative	1.29	$0.96 - 1.73$	0.087
Pneumonia postoperative	2.41	$1.72 - 3.38$	**<0.001**

Abbreviations: ASA, American Society of Anesthesiology; GFR, glomerular filtration rate in ml/min/1.73m^2; BMI, body mass index; KATZ-ADL, Katz Index of Independence in Activities of Daily Living.

Multivariable analysis of factors associated with 30-day mortality after backward selection