

### 30-day mortality after hip fracture surgery: influence of postoperative factors.

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S1 Table. Descriptive data for pre-operative and post-operative studied variables including statistical comparisons between survival and 30-day mortality groups.

	Total population (n=923)	Survival (n=868)	30-day mortality (n=55)	p-value
<b>In-hospital stay derived variables</b>				
<b>LOS (days)</b>	8.65 ± 4.09 8 [1,37]	8.53 ± 3.82 8 [2,37]	10.58 ± 6.87 8 [1,34]	0.099
<b>Walking ability at discharge</b>	60.1%	62.1%	27.8%	<b>&lt;0.001</b>
<b>Pre-surgical clinical variables</b>				
<b>ASA</b>	2.84 ± 0.56 3 [1,4]	2.81 ± 0.56 3 [1,4]	3.16 ± 0.60 3 [2,4]	<b>&lt;0.001</b>
<b>ASA 3-4</b>	76.1%	75.3%	89.1%	<b>0.020</b>
<b>Charlson index</b>	1.86 ± 1.64 2 [0,10]	1.82 ± 1.61 2 [0,10]	2.49 ± 1.98 2 [0,8]	<b>0.016</b>
<b>Charlson index (grouped)</b>				<b>0.049</b>
No comorbidity (0-1)	48.6%	49.2%	40.0%	
Slight comorbidity (2)	22.2%	22.6%	16.4%	
High comorbidity (≥3)	29.1%	28.2%	43.9%	<b>0.015</b>
<b>Cognitive impairment</b>	41.2%	40.4%	52.8%	0.075
<b>Antiplatelet treatment</b>	34.5%	34.9%	27.3%	0.248
Acetyl salicylic acid (≤100mg/day)	26.4%	27.1%	16.4%	0.081
Acetyl salicylic acid (300mg/day)	3.1%	3.0%	5.5%	0.311
Clopidogrel	4.0%	4.0%	5.4%	0.885
Other strong antiplatelet agent	1.8%	1.8%	1.8%	0.989
<b>Anticoagulant treatment</b>	20.9%	19.8%	38.2%	<b>0.001</b>
Acenocoumarol	14.7%	13.6%	32.7%	<b>&lt;0.001</b>
Other DOACs	6.3%	6.3%	5.5%	0.794
<b>Comorbidity</b>	93.7%	93.5%	96.4%	0.404
<b>Cardiac comorbidity</b>	87.5%	87.3%	90.9%	0.435
High blood pressure	74.8%	75.0%	70.9%	0.498
Dyslipidaemia	39.2%	39.3%	36.4%	0.662
Chronic cardiac insufficiency	13.3%	12.0%	14.8%	<b>&lt;0.001</b>
Valvar heart disease	9.4%	9.0%	16.4%	0.070
Arrhythmia	22.0%	20.9%	40.0%	<b>0.001</b>
Ischemic heart failure	12.9%	12.4%	21.8%	<b>0.042</b>

	<b>Total population</b> (n=923)	<b>Survival</b> (n=868)	<b>30-day mortality</b> (n=55)	<b>p-value</b>
Diabetes	26.8%	26.8%	27.3%	0.938
<b>Pulmonary comorbidity</b>	17.9%	17.7%	21.8%	0.436
COPD	10.1%	9.6%	18.2%	<b>0.040</b>
Pulmonary emphysema	0.8%	0.7%	1.8%	0.351
Pulmonary thromboembolism	3.5%	3.5%	3.6%	0.946
Asthma	5.4%	5.4%	5.5%	0.993
<b>Digestive comorbidity</b>	28.5%	28.6%	27.3%	0.832
Hiatal hernia	6.0%	5.7%	10.9%	0.111
Chronic gastritis	1.8%	2.0%	-	0.294
Diverticulitis	5.0%	4.8%	7.3%	0.424
Gastric ulcer or Duodenal ulcer	4.3%	4.4%	3.6%	0.791
Gastroesophageal reflux	1.4%	1.4%	1.8%	0.792
Chronic diarrhoea	0.2%	0.2%	-	0.721
Other hepatic-pancreatic-biliary comorbidity	15.8%	16.3%	7.3%	0.075
<b>Renal comorbidity</b>	16.7%	16.4%	21.8%	0.296
Chronic renal insufficiency	14.7%	14.2%	21.8%	0.122
Recurrent urinary tract infections	2.7%	2.9%	-	0.201
<b>History of malignancy</b>	23.0%	22.6%	29.1%	0.270
Digestive cancer	5.2%	5.1%	7.3%	0.478
Renal cancer	5.0%	5.0%	5.5%	0.872
Pulmonary cancer	0.9%	0.7%	3.6%	<b>0.023</b>
Gynaecological cancer	3.9%	4.0%	2.8%	0.409
Endocrine cancer	0.2%	0.1%	1.8%	<b>0.009</b>
Haematological cancer	1.3%	1.3%	1.8%	0.729
Other previous cancer	9.1%	9.1%	9.1%	0.994
<b>Post-surgical clinical variables</b>				
<b>Surgical-derived complications</b>	25.9%	26.2%	21.8%	0.473
<b>In-hospital surgical-derived complications</b>	23.2%	23.4%	20.0%	0.562
<b>Seroma</b>	20.5%	20.7%	16.4%	0.435
<b>Intraoperative fracture</b>	0.4%	0.5%	-	0.613
<b>Out-of-hospital surgical-derived complications</b>	3.6%	3.6%	3.6%	0.986
<b>Reoperation</b>				0.097
Cut in	0.2%	0.2%	-	
Cut out	2.0%	2.1%	-	
Dislocation*	1.7%	1.3%	8.0%	<b>0.013</b>

	<b>Total population (n=923)</b>	<b>Survival (n=868)</b>	<b>30-day mortality (n=55)</b>	<b>p-value</b>
<b>Prosthesis infection</b>	0.9%	0.9%	-	0.473
<b>Medical complication</b>	76.9%	75.9%	92.7%	<b>0.004</b>
<b>Renal complication</b>	33.8%	33.1%	45.5%	0.060
Postsurgical renal insufficiency (grouped)	7.8%	6.7%	25.5%	<b>&lt;0.001</b>
<i>Acute renal insufficiency</i>	4.6%	4.1%	12.7%	<b>&lt;0.001</b>
<i>Chronic renal insufficiency</i>	3.3%	2.7%	12.7%	
Acute urine retention	27.5%	27.8%	23.6%	0.505
Urine tract infection	3.4%	3.5%	1.8%	0.509
<b>Digestive complications</b>	24.8%	24.55	29.1%	0.448
Constipation	23.5%	23.4%	25.5%	0.725
Diarrhoea	0.5%	0.6%	-	0.571
Paralytic ileum	1.1%	0.8%	5.5%	<b>0.001</b>
Upper digestive haemorrhage	0.4%	0.3%	1.8%	0.108
Lower digestive haemorrhage	0.4%	0.3%	-	0.662
Hepatic-pancreatic-biliary complication	0.4%	0.3%	1.8%	0.108
<b>Cardiac complication</b>	7.2%	4.7%	45.5%	<b>&lt;0.001</b>
Arrhythmia	3.1%	2.0%	21.8%	<b>&lt;0.001</b>
Cardiac insufficiency	5.0%	3.4%	30.9%	<b>&lt;0.001</b>
Acute heart failure	0.3%	0.3%	-	0.662
<b>Respiratory complication</b>	15.8%	13.5%	19.3%	<b>&lt;0.001</b>
Postsurgical respiratory insufficiency (grouped)	12.7%	10.6%	45.5%	<b>&lt;0.001</b>
<i>Acute respiratory insufficiency</i>	10.2%	8.2%	41.8%	<b>&lt;0.001</b>
<i>Chronic respiratory insufficiency</i>	2.5%	2.4%	3.7%	
Upper respiratory infection	3.6%	3.1%	10.9%	<b>0.003</b>
Pneumonia	0.7%	0.6%	1.8%	0.267
Pulmonary thromboembolism	0.2%	0.1%	1.8%	<b>0.009</b>
<b>Postsurgical sepsis</b>	0.5%	0.2%	5.5%	<b>&lt;0.001</b>
<b>Nutritional requirement</b>	10.6%	9.5%	27.3%	<b>&lt;0.001</b>
<b>Postsurgical dysphagia</b>	1.6%	1.5%	3.6%	0.227
<b>Diabetic decompensation</b>	4.2%	4.0%	7.3%	0.249
<b>Postsurgical pressure ulcer</b>	1.4%	1.4%	1.8%	0.794
<b>Postsurgical venous thrombosis</b>	-	-	-	

	<b>Total population (n=923)</b>	<b>Survival (n=868)</b>	<b>30-day mortality (n=55)</b>	<b>p-value</b>
<b>Postsurgical blood transfusion</b>	39.0%	39.4%	32.7%	0.324
<b>Postsurgical intravenous iron administration</b>	7.8%	7.6%	10.9%	0.383
<b>Neurological complication</b>	16.4%	15.3%	34.5%	<b>&lt;0.001</b>
Acute confusional syndrome	15.8%	14.8%	30.9%	<b>0.002</b>
Stroke	0.5%	0.2%	5.5%	<b>&lt;0.001</b>
Convulsions	6.0%	6.0%	-	0.662
Subdural hematoma	-	-	-	
<b>Metabolic misbalance</b>	17.2%	15.8%	38.2%	<b>&lt;0.001</b>
<b>Sodium deregulation</b>	7.7%	7.1%	18.2%	<b>0.003</b>
Hypernatremia	2.6%	2.3%	7.3%	<b>0.025</b>
Hyponatremia	5.1%	4.7%	10.9%	<b>0.044</b>
<b>Potassium deregulation</b>	7.3%	6.1%	25.5%	<b>&lt;0.001</b>
Hyperkalaemia	5.2%	4.7%	12.7%	<b>&lt;0.001</b>
Hypokalaemia	6.8%	6.6%	10.9%	<b>0.010</b>
<b>Calcium complication (hypercalcaemia)</b>	6.8%	6.6%	10.9%	0.218
Hypocalcaemia	-	-	-	
<b>Laboratory variables</b>				
<b>Admission haemoglobin (g/dl)</b>	12.62 ± 1.72 12.7 [5.6,17.5]	12.62 ± 1.68 12.7 [5.6,17.5]	12.585 ± 2.28 12.5 [8.0,17.5]	0.368
Haemoglobin level ≤10g/dl	6.6%	6.5%	8.2%	0.448
<b>Admission lymphocyte count (x10<sup>3</sup>/μl)</b>	1.28 ± 0.92 1.1 [0.25,16.15]	1.28 ± 0.84 1.13 [0.25,16.15]	1.31 ± 1.74 0.93 [0.32,13.09]	<b>0.019</b>
<b>Admission lymphocyte count (grouped)</b>				0.079
Lymphocyte level <0.5 x10 <sup>3</sup> /μl	5.5%	5.3%	9.1%	
Lymphocyte level <1 x10 <sup>3</sup> /μl	42.1%	41.2%	56.4%	<b>0.027<sup>a</sup></b>
Lymphocyte level 0.5-1 x10 <sup>3</sup> /μl	36.6%	35.9%	47.3%	
Lymphocyte level 1-2.5 x10 <sup>3</sup> /μl	52.9%	53.9%	36.4%	
Lymphocyte level >2.5 x10 <sup>3</sup> /μl	5.0%	4.8%	8.7%	
<b>Admission Albumin (g/dl)</b>	3.92 ± 0.43 4 [2.3,5.1]	3.93 ± 0.42 4 [2.3,5.1]	3.80 ± 0.50 3.85 [2.8,4.8]	0.061
<b>Admission Albumin (grouped)</b>				<b>0.026</b>
Albumin level <3.5 g/dl	17.8%	16.8%	33.3%	<b>0.009<sup>b</sup></b>
Albumin level 3.5-4 g/dl	41.1%	41.7%	33.3%	

	Total population (n=923)	Survival (n=868)	30-day mortality (n=55)	p-value
Albumin level 4-4.5 g/dl	36.6%	37.2%	27.1%	
Albumin level >4.5 g/dl	4.5%	4.3%	6.3%	<b>0.049</b>
<b>Admission glucose (mg/dl)</b>	143.5 ± 49.0 132 [65,628]	149.0 ± 49.5 131 [65,628]	146.0 ± 41.2 136 [84,263]	0.414
<b>Admission glucose (grouped)</b>				0.928
Glucose level <100 mg/dl	8.0%	8.0%	7.5%	
Glucose level >110mg/dl	78.9%	78.7%	83.0%	0.450 <sup>c</sup>
Glucose level 100-120 mg/dl	26.3%	26.6%	22.6%	
Glucose level 120-140 mg/dl	27.1%	27.0%	28.3%	
Glucose level >140 mg/dl	38.6%	38.4%	41.5%	
<b>Parathyroid hormone (mg/dl)<sup>d</sup></b>	72.95 ± 52.05 59.6 [6.4,437.6]	71.97 ± 48.09 59.6 [6.4,371]	90.08 ± 99.3 72.6 [13.9,437.6]	0.919
<b>Vitamin D (mg/dl)<sup>e</sup></b>	12.11 ± 8.83 9.15 [1.0,57.7]	12.06 ± 8.69 9.1 [1.0,57.7]	13.06 ± 11.50 10.1 [3.0,40.2]	0.947
<b>Discharge lymphocyte count (x10<sup>3</sup>/μl)</b>	1.24 ± 0.76 1.10 [0.16,14.06]	1.24 ± 0.69 1.11 [0.16,14.06]	1.26 ± 1.54 0.93 [0.22-10.1]	<b>0.006</b>
<b>Discharge albumin (g/dl)<sup>f</sup></b>	3.02 ± 0.40 3.0 [1.6,4.7]	3.01 ± 0.38 3.0 [1.6,4.7]	3.17 ± 0.61 3.05 [1.9,4.5]	0.262

LOS: Length of stay; DOACs: Direct Oral Anticoagulants. Frequencies are shown in percentages and quantitative variables are described by mean and standard deviation. P values are indicating differences between survival and 30-day mortality groups. Significant differences are marked in bold. \*Analysis include only arthroplasty patients (n=407, n=382 survival, n=25 30-day mortality). a: Comparison of lymphocyte count <10<sup>3</sup>/μl vs. ≥10<sup>3</sup>/μl. b: comparison of albumin admission level <3.5g/dl vs. ≥3.5g/dl. c: comparison of glucose admission level >110mg/dl vs. ≤110mg/dl. d: missing data, n=313 (n=17 30-day mortality). e: missing data, n=302 (n=15 30-day mortality). f: missing data, n=439.