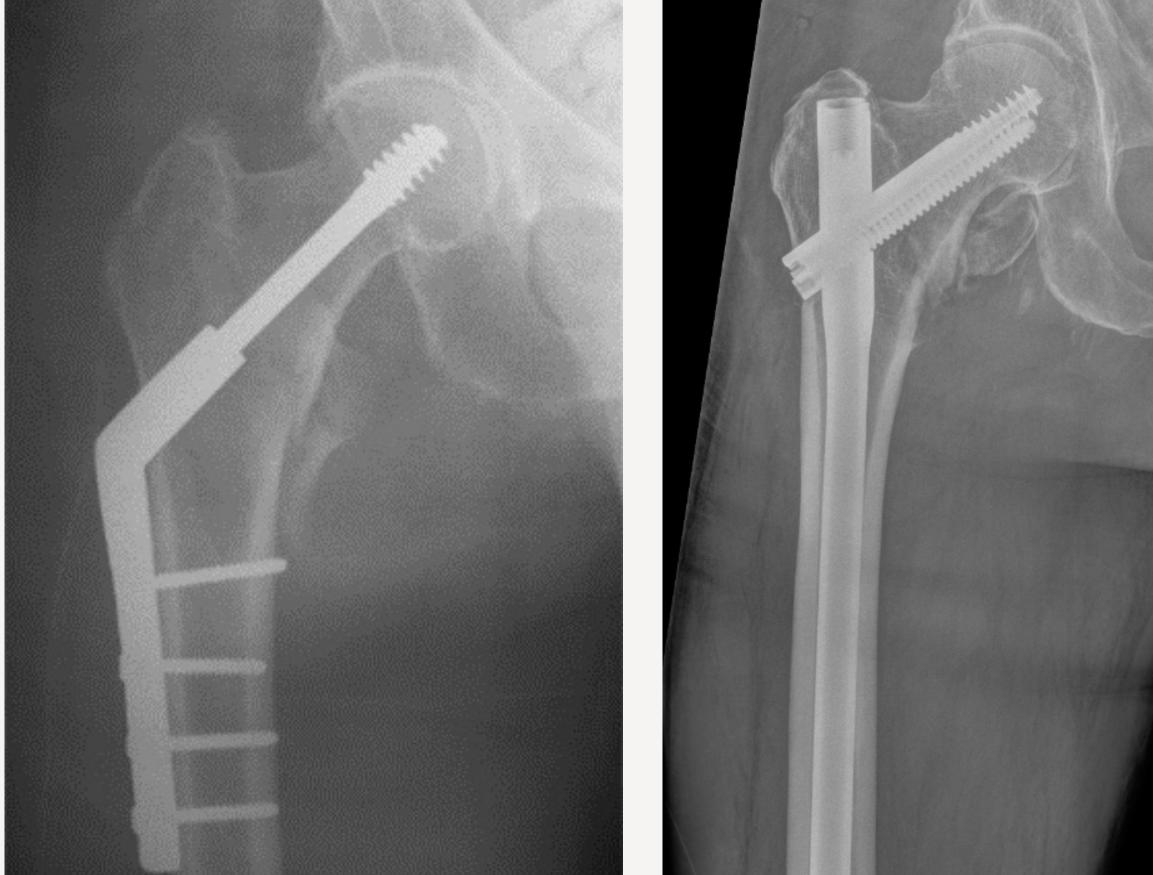
Mortality after operation with sliding hip screw (SHS) or intramedullary nail (IMN) For trochanteric and subtrochanteric fractures reported the Norwegian Hip Fracture Register 2008 to 2020

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Background

We used data from the Norwegian Hip Fracture Register 2008-2020. Primary The use of intramedullary nail (IMN) at the expense of sliding hip endpoint was mortality within 30 days, with secondary endpoints at 0-1, 2-7, 8-30, screw (SHS) as treatment for trochanteric and subtrochanteric 90, and 365-days. We excluded fractures in patients <60 years, pathological fractures is increasing internationally. Some studies have reported fractures, fractures operated before 2008, any contralateral hip fracture, other increased 30-days mortality for IMN compared to SHS. However, fractures than trochanteric and subtrochanteric, and other treatments than SHS and studies investigating the mortality the first days after operation is IMN. We analysed data with Kaplan-Meier survival analysis and Cox regression lacking. The aim of this study was to investigate if there was any analysis adjusted for type of fracture, age, sex, cognitive impairment, ASA difference in mortality between patients treated with IMN or SHS. classification, and time periods.



Pictures borrowed from the Norwegian Hip Fracture register of a sliding hip screw (left) and an intramedullary nail (right) ²⁵.

Conclusions

This national register-based study found that treatment of trochanteric and subtrochanteric fractures with IMN was associated with marginally lower mortality within 30 days, but no difference at 1 year compared to SHS. At day 0 to 1 treatment with IMN was associated with increased mortality in the period 2008 to 2012. The differences found in mortality was, however, small and should probably not guide choice of treatment.



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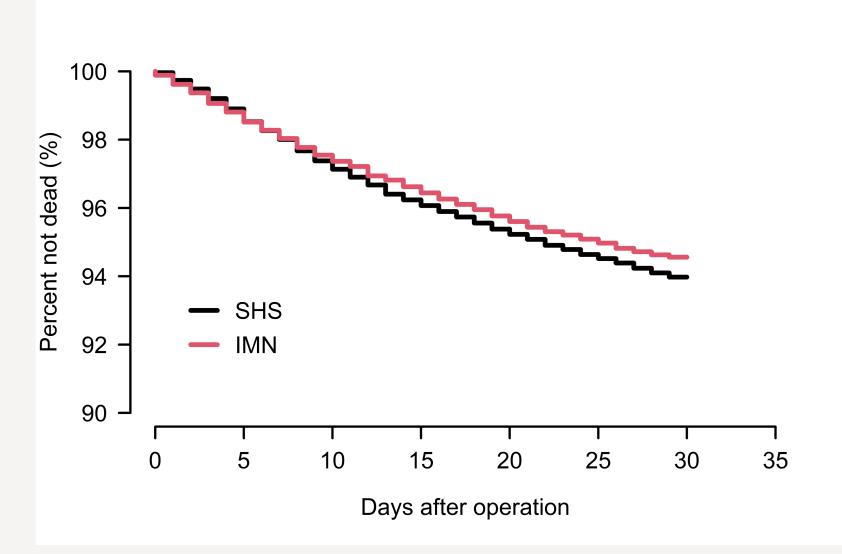
Methods

Results

In the unadjusted analysis the survival of the patients was higher for IMN compared to SHS within 30-days (92.2% vs. 91.1%), 90-days (86.0% vs. 84.6%) and 1-year (75.6% vs. 73.5%), p<0.001. After adjustments, the mortality was lower after IMN compared to SHS within 30-days (HRR=0.92; 95% CI=0.84 to 0.99; p=0.026) and at 8-30-days (HRR=0.87; 95% CI=0.78 to 0.96; p=0.006). The mortality was higher after IMN at 0-1-days (HRR=1.62; 95% CI=1.16 to 2.26; p=0.005) compared to SHS. There were no differences in mortality between IMN and SHS at 2-7 (HRR=0.94; 95% CI=0.81 to 1.01; p=0.446), 90 (HRR=0.94; 95% CI=0.89 to 1.00; p=0.068), and 365-days (HRR=0.96; 95% CI=0.91 to 1.00; p=0.063).



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Cox adjusted survival function 30 days. Cox regression analysis comparing treatment with SHS* and IMN** after trochanteric and subtrochanteric fracture with death as endpoint. Follow up time was 30 days. Adjustments were made for age group, sex, type of fracture, ASA score, cognitive status and time period of operation- *SHS = sliding hip screw, **IMN = intramedullary nail.

(IMN) 2008-2020. Cox Regression Analyses Stratified for Different Time-periods.

	2008-2012		2013-2016		2017-2020	
	HRR (95% CI)*	P-value **	HRR (95% CI)*	P-value **	HRR (95% CI)*	P-value **
0-1 days	2.07 (1.23 to 3.47)	0.006	1.35 (0.77 to 2.36)	0.303	1.39 (0.70 to 2.88)	0.345
2-7 days	0.94 (0.73 to 1.21)	0.607	1.15 (0.89 to 1.49)	0.294	0.78 (0.60 to 1.03)	0.082
8-30 days	0.84 (0.71 to 1.00)	0.054	0.79 (0.66 to 0.95)	0.012	0.95 (0.79 to 1.15)	0.619
30 days	0.91 (0.80 to 1.05)	0.199	0.89 (0.77 to 1.03)	0.131	0.92 (0.79 to 1.06)	0.248
90 days	0.95 (0.86 to 1.05)	0.326	0.93 (0.83 to 1.03)	0.172	0.95 (0.85 to 1.06)	0.366
365 days	1.02 (0.94 to 1.10)	0.659	0.92 (0.85 to 1.00)	0.061	0.90 (0.83 to 0.99)	0.030

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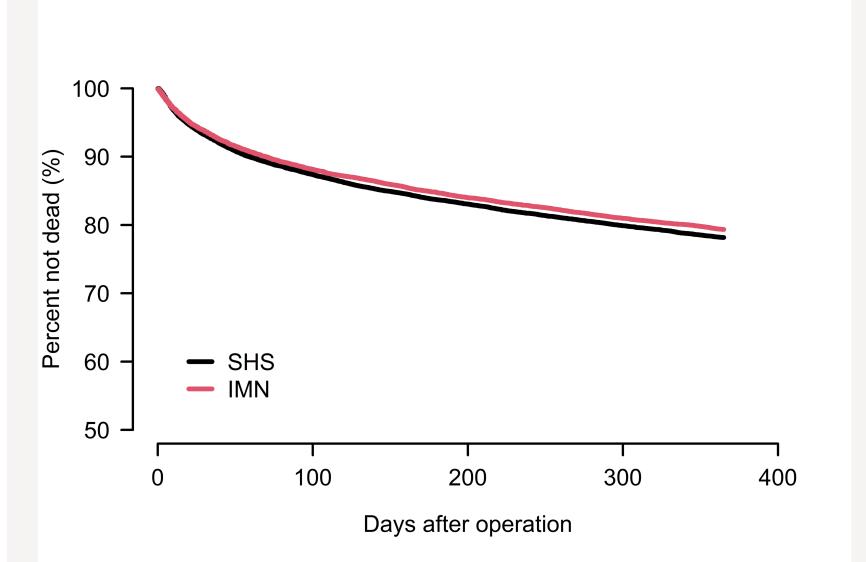
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Cox adjusted survival function 365 days. Cox regression analysis comparing treatment with SHS* and IMN** after trochanteric and subtrochanteric fracture with death as endpoint. Follow up time was 365 days. Adjustments were made for age group, sex, type of fracture, ASA score, cognitive status and time period of operation. *SHS = sliding hip screw, **IMN = intramedullary nail.

Table IV Mortality after Trochanteric and Subtrochanteric Fractures Treated With Sliding Hip Screw (SHS) and Intramedullary Nail

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