

## Letter

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# Letter to the editor regarding the article “Anti-osteoporotic treatment after hip fracture remains alarmingly low”

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We read with great interest the article by Kjaer et al. [1] describing the alarmingly low anti-osteoporotic treatment and dual-energy X-ray absorptiometry (DXA) scans after hip fracture. The University Hospitals of Herlev-Gentofte and North Zealand (NOH) are located within the same Region in Denmark, but local guidelines differ (NOH catchment area is 323,000 and we have no orthogeriatric team). We wanted to recreate data on patients evaluated at the NOH.

We included patients aged  $\geq 65$  years of age admitted to the NOH from 1 June 2019 to 30 May 2020 with a working diagnosis of DS720, DS721 or DS722 (hip-related fractures excluding peri-prosthetic and peri-implantation fractures) and follow-up until 31 December 2020. We collected data on anti-osteoporotic medication before and after the fracture, including how many were initiated or changed in anti-osteoporotic medication. We also collected DXA data before the hip fracture and during the 6-18-month follow-up. Our results (**Table 1** – 11.9% had a DXA scan and 18% initiated or had a relevant change in anti-osteoporotic treatment at follow-up) confirm the alarming findings by Kjaer et al. [1], albeit more people initiated or changed medication at the NOH, and (excluding patients who died) a total of 30% received antiosteoporotic medication at follow-up.

Persons at risk of low-energy hip fracture can easily be identified as they are associated with a fall tendency [2] (often due to orthostatic hypotension) [3] and diminished bone density. Unfortunately, many older persons are not screened for orthostatic hypotension or low bone density despite having multiple risk factors. Since hip fractures are associated with a high mortality [4], preventing a fall is directly related to lowering excess mortality in this group.

**TABLE 1** Characteristics of patients with hip fracture from 1 June 2019 to 30 May 2020 at the University Hospital of North Zealand, Denmark.

	All patients	Women	Men
Hip-related fractures, n	428	293	135
Age, mean, yrs	82.2	82.3	82.0
Patients who had died at follow-up, n (%)	124 (29.0)	72 (24.6)	52 (38.5)
Age at death, yrs	86.1	87	84.8
Time until death, mean, days	106.9	114.7	96.3
<i>Fracture diagnosis</i>			
Femoral neck, n (%)	238 (55.6)	160 (54.6)	78 (57.8)
Other hip-related fractures, n	190	133	57
<i>Type of surgery</i>			
Hemiarthroplastic, n (%), percentage of operated patients	124 (30.3)	82 (22.7)	42 (24.6)
Other operations, n	285	198	87
No operation, n	19	13	6
Anti-osteoporotic medicine before hip-related fracture, n	56	49	7
Relevant change in anti-osteoporotic medicine after hip-related fracture, n	33	29	4
Newly prescribed anti-osteoporotic medicine after fracture, n	44	32	12
DXA scan before hip-related fracture, n	40	36	4
DXA scan after hip-related fracture, n (%)	51 (11.9)	37 (12.6)	14 (10.4)

Patients may be referred for fall prevention clinics where they are evaluated thoroughly. Unfortunately, some patients fall again before attending their appointment, and some do not have the resources to show up. We propose that fall patients need acute evaluation, diagnosis and treatment of fall tendency and osteoporosis. Acute fall evaluation cannot replace the extensive evaluation in fall clinics, but may act as a supplement and ensure that resources are used more appropriately while future falls and fractures are prevented.

At the NOH, we have implemented an 'acute fall package' for patients admitted with a fall episode when other acute conditions associated with fall are ruled out (apoplexy, cardiac arrhythmia, etc.) Patients are screened for osteoporosis with DXA and evaluated for orthostatic hypotension with an active stand test with continuous measurements of heart rate and blood pressure. We recently added screening for sarcopenia (handgrip strength test) [5]. The tests are performed on the same day, often within a few hours of arriving at the Acute Department, and they take around 40 minutes to perform. Thus, it is a fast and easy setup.

So far, more than 80 patients have been referred to the "acute fall package", with more than 83% of patients having one or two pathological tests. We look forward to publishing the results from this quality improvement project when follow-up data have been collected.

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**Conflicts of interest** none. Disclosure forms provided by the authors are available with the letter at [ugeskriftet.dk/dmj](mailto:ugeskriftet.dk/dmj)

## REFERENCES

1. Kjær N, Stabel S, Midttun M. Anti-osteoporotic treatment after hip fracture remains alarmingly low. *Dan Med J* 2022;69(10):A01220010.

2. Parkkari J, Kannus P, Palvanen M et al. Majority of hip fractures occur as a result of a fall and impact on the greater trochanter of the femur: a prospective controlled hip fracture study with 206 consecutive patients. *Calcif Tissue Int.* 1999;65(3):183-7. doi:10.1007/s002239900679
3. Mol A, Bui Hoang PTS, Sharmin S et al. Orthostatic Hypotension and Falls in Older Adults: A Systematic Review and Meta-analysis. *J Am Med Dir Assoc.* 2019;20(5):589-597.e5. doi:10.1016/J.JAMDA.2018.11.003
4. Gundel O, Thygesen LC, Gögenur I et al. Postoperative mortality after a hip fracture over a 15-year period in Denmark: a national register study. *Acta Orthop.* 2020;91(1):58-62. doi:10.1080/17453674.2019.1680485
5. Suetta C, Haddock B, Alcazar J et al. The Copenhagen Sarcopenia Study: lean mass, strength, power, and physical function in a Danish cohort aged 20–93 years. *J Cachexia Sarcopenia Muscle.* 2019;10(6):1316-1329. doi:10.1002/jcsm.12477