

Treatment of pain after hip fracture in elderly with and without dementia

Christina Jensen-Dahm¹, Henrik Palm², Jørgen B. Dahl³, Christiane Gasse⁴, Aske Aastrup⁵, Gunhild Waldemar⁶,

¹Rigshospitalet, Copenhagen University Hospital, Copenhagen Ø, Denmark; ²Copenhagen University Hospital - Hvidovre, Hvidovre, Denmark; ³Copenhagen University Hospital, Rigshospitalet, 2100, Denmark; ⁴Aarhus University, Aarhus V, Denmark, Denmark; ⁵Aarhus University, Aarhus V, Denmark; ⁶Rigshospitalet - Copenhagen University Hospital, Copenhagen, Denmark, Denmark.

Description: Background: Prior studies have shown that patients with dementia are at risk for receiving insufficient treatment for pain after a hip fracture. However, over the past decade pain in patients with dementia has gained increasing attention. Furthermore, many hospitals have introduced standardized post-operative pain treatment. This may have eliminated treatment differences and we therefore wished to investigate if patients with dementia received the same post-operative pain treatment during hospitalization after hip fracture surgery as elderly without dementia Method: The study population consisted of all patients (age ≥ 65 years) who in 2009 had been treated for a hip fracture in Copenhagen Hospital region. Patients were identified using the national indicator project database for hip fracture. Data about medication use during hospitalization was acquired from the electronic medication system. Data were linked with information from nationwide registers, which allowed retrieval of information about dementia, comorbidity and prior drug use. Results: The study population consisted of 1535 persons, among which 303 (19.8%) suffered from dementia. Patients with dementia were older (85.5 years vs. 82.8 years, $p < 0.0001$), more likely to reside in nursing homes (43.1% vs. 10.4%, $p < 0.0001$) and had higher ASA scores. Majority (89.4-91.4%) of patients with and without dementia received paracetamol as a standing order. During the first post-operative day 71.3% of patients with and without dementia received morphine. However, patients with dementia received lower dosages ($36.3\text{mg} \pm 22.2\text{mg}$ vs. $42.6\text{mg} \pm 28.5\text{mg}$, $p = 0.0087$). At day two patients with dementia also received slightly lower dosages ($34.4\text{mg} \pm 25.0\text{mg}$ vs. $37.2\text{mg} \pm 27.0\text{mg}$), but there was no difference on day three. Conclusion: We did not find any major differences between patients with and without dementia in the post-operative pain treatment day 1-3 after hip fracture; however pain treatment after day 3 was not assessed. A similar percentage of patients with and without dementia received paracetamol and morphine as part of the post-operative pain treatment. Patients with dementia received slightly lower dosages, which was most pronounced during the first day. This may be appropriate as patients with dementia in this population were older and may not tolerate opioids as well as elderly without cognitive impairment.