

Background Many older people have multiple hospital admissions during their last year of life and many of them die at the hospital. Estimating the remaining lifetime of a patient is often difficult for physicians, especially when dealing with elderly patients suffering from other life-threatening illnesses than advanced cancer. Failure to identify the approaching death may lead to treating old, dying patients with active treatments aiming at cure, instead of focusing on good palliation, comfort and dignity.

Aim To evaluate the medication and treatment of elderly patients who die during hospital admission with focus on the last two weeks preceding death. Furthermore, the aim is to evaluate whether the deaths were anticipated and appropriate changes in care plans made.

Methods This is an observational, retrospective study. Electronic patient records of all the patients who died at the Turku City Hospital during four months (from February to May 2018) were retrieved to evaluate the treatment these patients received during the last two weeks of their lives, with focus on drug treatment. After excluding the cases with insufficient length of hospitalization (≤ 3 days), there were 47 patient cases available for the study. We retrieved data on previous health and functional status, the causes of death, the examinations performed and the medications and other treatments used during the admission. The medication-lists were reviewed cross-sectionally at 14 days preceding death (or at admission whichever came first) and at 3 days preceding death. We categorized the medications into preventive, curative and symptomatic drugs. In addition, we checked if there was a previously existing advance care plan (ACP), DNR-order (or living will) or if these were made during the hospital admission.

Results Study population consisted of 23 women and 25 men, with mean age of 85 years (58-102 years, median 87). The mean length of hospital admission was 21,5 days (4-97 days, median 18). 74% of the study population had previous heart condition, 47% had previous dementia and 72% needed assistance with daily tasks (including 8 patients who lived in a nursing home). 36% of patients had existing ACP, DNR-order or living will before hospital admission. Most common cause of death was heart disease (30%), followed by dementia (17%). 13 deaths were classified as unexpected. Of the 34 expected (or anticipated) deaths, end-of-life care plan was discussed and initiated in 9 cases within 24 hours preceding death, in 5 cases within 48 hours and in 13 cases ≥ 3 days preceding the death. Blood tests were made in 83% of the cases during the last 3 days and in 28% on the day of death. 66% of the patients received iv-fluids during last 3 days. Mean number of drugs given regularly was 10 and 7 at 14 and 3 days preceding death, respectively. 91% of the patients received preventive drugs 14 days preceding death and 55% received those 3 days preceding death. Curative drugs (most commonly antibiotics) were used in 94% and 68% of the cases, respectively. All patients received symptomatic drugs, with slightly increasing number towards the death. The most common symptomatic drug groups during the last 3 days were opioids, benzodiazepines, paracetamol, bronchodilators and laxatives.

Short discussion In the acute hospital setting even elderly and frail patients are often being intensively treated and it is challenging to predict which patients will not survive an admission. Therefore many preventive and curative treatments were continued almost until death. Parallel to that, pain and other symptoms of the patients seemed to be well controlled with various symptomatic treatments.

Conclusion Hospital physicians need more education in how to identify a dying patient in order to provide adequate and timely end-of-life care.