Usage of Do-not-attempt-to resuscitate-orders in a Swedish community hospital – patient involvement, documentation and compliance

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Purpose of the study

To characterize patients dying in a community hospital with or without attempting cardio-pulmonary resuscitation (CPR) including those who were pronounced dead at the hospital after out-of-hospital resuscitation. The main interest of the study was patient involvement in, documentation of, and compliance with previous decisions on resuscitation (Do-not-attempt-resuscitation orders; DNAR). Other areas of interest were the documented reasons for and wording of DNAR orders and whether the patients died alone or in the presence of family/friends or hospital personnel.

Material and methods

All patients who died in or were pronounced dead in Kalmar County Hospital during January 1, 2016 until December 31, 2016 were included in this retrospective study. All pertinent information from the patients' electronic chart was analyzed by a cardiology nurse (E.B.) together with a senior cardiologist and medical ethicist (J.C.). Doubtful cases were discussed with the other authors (B.S., K.S., A.B.). The study was approved by the Regional Ethic review Board in Linköping, Sweden; 2017/270-31.

References

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3. SOSFS 2011:7. Livsuppehållande behandling. [Swedish health law concerning CPR] <https://www.socialstyrelsen.se/Lists/Artikelkatalog/Attachments/18374/2011-6-26.pdf>

Results

Of 660 patients (mean age 77.7 ± 12.1 years; range 21-101; median 79; 321 (48.6%) female), a DNAR order had been documented in 563 patients (85.3%; table). In 66 of 94 (70.2%) patients without DNAR, CPR was unsuccessfully attempted. 28 of 94 (29.8%) patients died without attempt at CPR and without a DNAR order in place. In 4 of 561 (0.7%) patients CPR was attempted despite a DNAR order in place. During the same time, 19 patients survived in-hospital CPR, none of whom had a DNAR order. The time between DNAR documentation and death was between 0 and 2645 days (mean 26.7; median 4). Documentation had been done on admission in 93 cases (16.5%), during hospital stay in 312 cases (55.4%) or was from an earlier hospital stay in 86 patients (15.3%). An earlier order was confirmed on admission in 40 cases (7.1%) while confirmation of an earlier order was delayed until later during hospital stay in 35 cases (6.2%). In 416 patients (73.9%) the DNAR order had not been discussed with neither patient nor family/friends. Moreover, in 84 cases (14.9%) neither patient nor family/friends were even informed about the decision on code status. Swedish health law stipulates documentation of the reasons for DNAR orders and consultation of other health care professionals concerning the order (3) which had been done in 357/563 (63%) cases. Swedish ethical guidelines (2) suggest a certain wording, e.g. the term "0 CPR" should be avoided (was used in 281/563 (50%) and "No CPR" (used in 254/563 (45%) be used instead (in the remaining 28 (5%) cases different other wording was used). Furthermore, the DNAR order should be

accompanied by an explanatory text. Compliance with that requirement was 74% (308/563). Dementia and age were commonly used explanations. The place of death was outside the hospital in 30 (4.5%) cases (pronounced dead in the hospital), emergency department in 11 (1.6%), general ward in 536 (81.2%), the intensive care unit in 74 (11.2%) and the radiology department in 9 (1.3%) cases. Cause of death was documented as sudden cardiac arrest in 67 cases, respiratory disease in 65 cases, metastasized cancer in 112 cases, heart failure in 42 cases, multiorgan failure in 42 cases, infection (including pneumonia) in 61 cases and sepsis in 25 cases. The remaining 246 cases had other causes of death or combinations of mentioned causes. The patient died in the presence of a relative (281; 42.6%), health care personnel (273; 41.4%) and 122 died alone (18%). In 58 cases there was no documentation concerning the presence of someone else (please note that the numbers

do not correspond to 100% because of possible presence of a relative as well as health care personnel.

Discussion

In general, a large percentage of patients in our study had a DNAR order in place (85.3%) and compliance with the order was high (99.3%). However, 28 patients (4.2%) died without CPR attempt or DNAR order. While guidelines require discussion of DNAR orders with the patient (or family/friends), this had not been done in almost three fourths of the patients of this study. Furthermore, the compliance with Swedish health care law was low concerning the form and wording of the DNAR orders. In 26% of the cases the order was not accompanied by an explanatory text. In many cases the text contained only "dementia" and/or "age" as explanation without further comment. Further work has to be done to implement ethical CPR guidelines (1-3) to insure patient autonomy.

	n	Age at death* [years] (range)	DNAR order present* [n; %]	Time between DNAR and death [days]	Discussion about DNAR order with patient [n; %]	No information given to patient/ relatives about DNAR order [n;%]
All patients	660	78±12 (21-101)	563 (85.3%)	27±144 (0-2645)	80 (14.2%)	84 (14.9%)
Female	321	79±12 (25-101)	288 (89.7%)	29±167 (0-2645)	40 (13.9%)	39 (13.5%)
Male	339	76±12 (21-96)	275 (81.9%)	24±117 (0-1568)	40 (14.5%)	45 (16.4%)

* p<0.01