measures. At each time-point MEDD, DEDD and ACL were calculated. Multilevel modelling was used to investigate independent associations between MEDD, DEDD and ACL, and cognitive and gastrointestinal symptoms, quality of life, performance status and survival.

**Results** Cognitive and gastrointestinal symptoms, performance status, and quality of life worsened over time. In the adjusted multilevel analysis significance remained for worsening performance status (MEDD, p=0.001; DEDD, p<0.001; ACL, p=0.035) and longer time to death (MEDD, p<0.001; ACL, p=0.01).

**Conclusion** Commonly used palliative medications were associated with deteriorating performance status and shorter time to death. This analysis highlights the importance of adjusting for other variables, including other medication when exploring medication-related harms. An understanding of the risk-benefit balance of medications is needed to maximise net benefit for patients. Future work to delineate interactions between classes of drugs and drug-related harms and to evaluate early assessment and management of side-effects is needed in order to maximise net benefit.

**Results** 30 articles were included. There is grade A evidence for the following biological factors: serum CRP, WBC count, lymphopoenia, serum sodium, ura, ALP and hypoalbuminaemia. An additional nine prognostic factors were identified with grade B evidence including: thrombocytopoenia, elevated vitamin B12, hyperbilirubinaemia, hypocholestroleraemia, elevated AST, ALT, LDH and INR. In the last two weeks of life, a number of biomarkers have been identified but limitations exist. No post-mortem studies met the inclusion criteria.

**Conclusion** The biology of dying is an important area for future research interest. The evidence base to date is largely focused on symptoms, signs and prognostic factors. We identify a number common themes shared amongst advanced cancer patients, candidate biomarkers of dying, and areas for future research including non-invasive research methodologies.

**Results** 200 patients were recruited in 1 year, and all feasibility criteria were achieved. The prevalence of delirium was similar in the two groups, although the onset of delirium was delayed in the CAH group (112 hour versus 58 hour). Similar results were seen for excess respiratory secretions (“death rattle”). Median survival was greater in the CAH group (i.e. 5 days versus 3 days). Thirty-eight percent patients discontinued CAH due to perceived adverse effects (e.g. localised swelling, respiratory secretions).

**Conclusion** Interventional trials are possible in patients at the end-of-life, but the methodology needs to be somewhat adapted. The results of the feasibility study suggest that CAH may have a positive influence of end-of-life problems, and possibly survival. However, a larger/definitive study is required to confirm these findings. CAH is associated with adverse effects in some patients, but these may be less than perceived by palliative care specialists.

**Results** Three electronic databases. A hand search of six peer-reviewed journals and conference abstracts was also conducted. Studies reporting biomarkers of dying in cancer patients with a median survival of ≤90 days, and post-mortem studies were included.

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