

THE DANGERS OF ABANDONMENT OF EVIDENCE-BASED MEDICINE IN THE USE OF THE LIVERPOOL CARE PATHWAY.

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ABSTRACT:



Evidence-based medicine is increasingly regarded as the gold standard of clinical care. The Liverpool Care Pathway (LCP) is a pre-specified “care plan” used for patients who are judged to be “in the last hours or days of life”. 29% of patients in National Health Service (NHS) hospitals currently die on the LCP. The median time to death on the LCP is 33 hrs. A review of the literature reveals that there are no published criteria that can predict death within this time frame. The lack of an evidence-base for institution of the LCP makes it a form of assisted death rather than a care plan. The personal judgment of the physician and other medical team members about perceived quality of life or low likelihood of a good outcome are probably central in the decision to put a patient on the LCP. There are likely many patients who have been killed by this pathway who could have lived substantially longer. The LCP is also likely to negatively affect doctor-patient relationships and have a negative effect on medical care, particularly of the elderly, in NHS hospitals.

INTRODUCTION

Before a patient is commenced on the Liverpool Care Pathway (LCP) a determination has to be made that the patient is in “the last hours or days of life”[1] The purpose of this paper is to estimate the accuracy of a determination that a patient is within “the last hours or days of life”. Firstly, I will review the accuracy and limitations of prediction and prognostication of survival. Secondly I will attempt to determine what being “in the last hours or days of life” means and the basis for this determination. Thirdly, I will review the factors that are associated with withdrawal of care. Finally, I will discuss the implications of the LCP for the care of patients.

PREDICTION

Prediction is different from prognostication.[2] Prediction is a point estimate of survival time by a clinician. A prediction is at best an educated guess and often incorrect. The agreement between actual survival and predicted survival is poor (weighted kappa 0.36) even in terminal cancer patients.[3] Statistical models are no better at giving point estimates of survival time than clinicians. Using a statistical prognostic index, in 272 patients with lung cancer, 49% of clinicians’ predictions and 52% of statistical predictions were in “serious error” (life span overestimated by 100% or underestimated by 50%).[4]

PROGNOSIS

Prognosis is a statistical range of survival times based on assessing the patient’s survival by use of a previously published prognostic scale. Prognostication has limited accuracy. Survival is frequently over- or under-estimated and only about 25% of survival estimates are correct to within one week.[3]

The majority of prognostication research has been done in cancer patients, with advanced disease with a high likelihood of being fatal within a relatively short time. Non-cancer diagnoses have a less predictable course making prognostication more difficult. Neurological disease has to include a

separate prognostication for meaningful cognitive recovery if the patient survives, which complicates prognostication. Every patient is unique with personal characteristics that affect their outcome.[5]

The Palliative Prognostic Score (PaP) is the most frequently used survival score for “terminally ill” cancer patients. However, at least 50% of the score is subjective and based on a clinical prediction of survival and depends on the experience of the rating clinician. The PaP has been validated to divide patients into 3 distinct risk groups. The median survival for the groups are: 76 days, 32 days, and 14 days. The matching 30 day survival probabilities are 87%, 52%, and 17%. [6] A short term prognostication index that includes a nomogram for probability of survival at 15 days was inaccurate in up to 32% of cancer patients.[7] In this study, in a quartile (99 patients) of mean survival 10 days, over 10% survived much longer, with survival up to 200 days.

LITERATURE SEARCH

A MEDLINE search was conducted with search words “terminally ill” and “prognosis”. 405 citations were returned and these were reviewed for relevance to prognostication in a very early time frame. The shortest prognostication time found for a heterogeneous cancer/non-cancer population was for survival less than 1 week using the Palliative Performance Scale.[8]

THE “LAST HOURS OR DAYS OF LIFE”

The LCP states that the patient has to be in “last hours or days of life”[1]. The median time to death on LCP was 33 (12-79) hours and was identical in the first two audits of the LCP.[9] I was not able to find any research published that addresses prognostication within this very short survival time scale.[5] The LCP does not in fact attempt to use any published prognostication index to determine eligibility for the pathway. For this reason, being “within the last hours of days of life” is a prediction not a prognostication.

CLINICAL FACTORS THAT ARE ASSOCIATED WITH WITHDRAWAL OF CARE.

In an international study of 851 patients in 15 Intensive Care Units, the main three factors that were associated with withdrawal of mechanical ventilation were: physician prediction of survival likelihood <10%, (HR:3.5 [1.4-8.8] p0.002), physician prediction of severely impaired cognition (HR:2.5 [1.3-5] p0.002) and physician perception that the patient did not want life support (HR:4.2 [2.8-6.8] p<0.001). Age, prior functional status, severity of illness or organ dysfunction did not independently predict outcome.[10] In an accompanying editorial it was stressed that the 3 major factors deciding withdrawal of care were subjective judgments of the physician. A concern was raised that physician biases about a patient are relayed to the family and that this affects what family members say about preferences, creating a self-fulfilling prophecy.[11] In a study of factors deciding withdrawal of care in patients with intracerebral haemorrhage,[12] patients who had surgical removal of the haemorrhage were treated more aggressively and had better outcomes despite a similar size of intracerebral haemorrhage and degree of coma to non-surgical patients. The most important prognostic determinant was the level of support provided. Patients in a traditionally “high mortality risk” category could have a reasonable outcome if treated aggressively. Practitioners tend to be overly pessimistic in prognosticating outcome based upon data available at the time of presentation. It was concluded that withdrawal of support in patients felt likely to have a poor outcome leads to self-fulfilling prophecies.

CASE OF PATIENT PUT ON THE LIVERPOOL CARE PATHWAY.

The patient was a 71 year old man with history of prior left frontal cerebral haemorrhage and infarct and subsequent seizures. He had a degree of vascular cognitive impairment. He was walking only with assistance and living with a supportive family. He was admitted under my care with generalized,

followed by persistent focal motor seizures. Confused, agitated, hallucinating and aggressive at times, he developed pneumonia and became febrile, noisy and needing one-on-one nursing.

I found him deeply unresponsive on a Monday morning and was told he had been put on the LCP over the weekend after a consultation between the doctor covering and the head nurse. He was on morphine via a syringe driver. The relatives were distressed and told me they had not agreed. I removed the patient from the LCP despite significant resistance. The seizures came under control and four weeks later the patient was discharged home to his family. He needed extensive support with wheelchair, ramps, commode, cot-sides, hoist and community nursing. He was admitted 3 months later for gastrostomy tube insertion. Fourteen months after he was first put on the LCP he was admitted to a different hospital with aspiration pneumonia. He was febrile, despite antibiotics, drowsy and on 95% oxygen and not improving. A best interest meeting between doctors, a nurse and a physiotherapist decided to put him on the LCP and the patient died 5 hours later.

THE LIVERPOOL CARE PATHWAY: CONCLUSIONS

There is no scientific evidence to support a diagnosis that a patient is in “the last hours or days of life”. The LCP does not in fact rely on scientific evidence to determine initiation of the pathway. The lack of an evidence-base for initiating the LCP makes it an Assisted Death pathway rather than a “care” pathway. Since there are no objective criteria for initiating the LCP, the criteria used are likely subjective biases of the team that make the decision to put the patient on this pathway. As the above research shows, physician biases often underestimate the chance of a good outcome. The physician relays a poor outlook to relatives, making a determination of a poor outcome into a self-fulfilling prophecy.

If we accept to use the LCP we accept that euthanasia is part of the standard way of dying in the NHS. The LCP is now associated with nearly a third of NHS deaths. Very likely many elderly patients who could live substantially longer are being killed by the LCP including patients with “terminal” cancer, as the above research shows. Factors like pressure of beds and difficulty with nursing confused or difficult-to-manage elderly patients cannot be excluded as biases towards initiating the LCP.

Starting a patient on the LCP, is an abandonment of evidence-based medicine in a critically-ill section of the hospital population. This goes entirely against the gold standard of modern clinical care and is likely to have very serious ramifications, not only for the patients put on the LCP but for the practice of medicine in NHS hospitals. The LCP is already altering the natural history of disease and in this way negatively affects mortality statistics. Nursing of elderly patients who are on the LCP in proximity to those in whom evidence-based medicine is determining care, is confusing to junior medical staff and nurses alike. Junior staff and nurses are also vulnerable in terms of their careers and may find it more difficult to voice ethical concerns they feel. Use of the LCP is likely to have negative effects on elderly patients in particular, who are *not* on the LCP and to undermine the doctor-patient relationship. The LCP needs to be abandoned in favour of evidence-based medicine in all patient groups including those with terminal cancer.

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