

Out of the furrow and into the fire: Where do we go with delirium?

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Delirium is a term derived from Latin, meaning “out of the furrow.” It refers to an acute disorder of cognition that, chiefly through affecting attention and concentration, impairs higher cortical function. Delirium affects about 1 in 5 elderly inpatients on medical units and half or more of elderly patients who undergo hip fracture surgery.¹ Delirium is associated with an increased risk of several adverse outcomes, including decline in function, admission to a nursing home and death in the short and long term² and dementia in the long term.³

Many of the wide range of factors that lead to delirium^{1,2} appear to be avoidable, especially those that occur after a patient is admitted to hospital. Much effort has gone into attempts to prevent delirium and to better treat it once it has occurred. Studies to prevent delirium have been encouraging,^{2,4,5} but treatment studies often have significant methodologic problems.² As a result, the investigation by Martin Cole and colleagues,⁶ reported in this issue (page 753), has been awaited with interest. The Montreal team has given great care to the design and implementation of the study, which involved a reasonably large sample ($n = 227$), albeit at a single site.

The results will disappoint those who hoped to see a positive effect of a comprehensive, multidisciplinary intervention. Elderly patients admitted to hospital (save those with stroke, those admitted to intensive care, cardiac monitoring, geriatric or oncology units, those who did not speak English or French, and those who did not live nearby) were screened for delirium and randomly assigned to receive either usual care or an intervention consisting of consultation and follow-up by a geriatric psychiatrist or geriatrician, and follow-up by the study nurse. The latter attempted to bring about both environment changes and nursing support aimed at mitigating many of the routine hospital practices that promote or exacerbate delirium. The authors used an intervention protocol with practicable recommendations and took care to ensure compliance. The analyses were conducted to take into account confounding factors, including that the usual-care group was allowed to receive geriatric psychiatry or medicine consultation. On none of the measures (time to and rate of improvement in cognition, survival, number of days in hospital, dependence in personal care activities, or living arrangements after discharge) did

the intervention show a statistically significant difference.

When an intervention fails to show the results that were expected, logically 1 of 2 possibilities must obtain. Either the intervention worked but failed to be shown as having done so, or the intervention did not work. Cole and colleagues carefully consider both possibilities. The primary outcome measure, the Mini-Mental Status Exam, is a useful means of screening patients for cognitive impairment, but its responsiveness is suspect.^{7,8} Still, none of the other measures came close to showing a trend in favour of the intervention, which suggests that the intervention truly failed.

Failure can be attributed to the intervention's not being strong enough. None of the elements of the intervention are objectionable, but even a faultless protocol would amount to small beer if precipitating causes of the delirium were missed or handled inadequately. This might have been the case, given that 27% of recommendations on medication and 31% of recommendations on investigations were not followed. Even so, the authors appear to have put a concerted effort into assuring compliance, and it is hard to imagine better in the usual clinical setting outside of a trial.

Are we therefore obliged to share in the authors' dismal conclusion that “the additional effort to detect delirium ... and the substantial time required to provide enhanced care ... may be unwarranted”? I would propose not. The care provided to the intervention group is how most of us would like our loved ones to be cared for, with enough attention paid to them that health care professionals would at least recognize alterations in their mental state. The unattractive but real alternative is that these patients are consigned to a poor quality of care for “confusion” that demoralizes families and health care professionals alike.⁹ Let me press the point further: to fail to recognize delirium is to practise with an unsatisfying disengagement with one's patients' lives. It is also to practise to a standard that most of us would otherwise decry. Who would accept looking at a young trauma patient with numerous injuries and giving only a half-hearted effort?

Delirium in some patients reflects disease of the brain (as in encephalitis or certain types of stroke). But for many patients with delirium, it seems to be best to think about it as a manifestation of frailty. Older adults are frail when they have several, interacting medical and social problems

that give rise to a loss of redundancy in their homeostatic capacity and, thus, an inability to withstand stress.¹⁰ In other words, they need most of their physiologic components and most of their environmental supports at or near maximum capacity to get through the day. When one component goes awry, the equilibrium of this complex system fails, and the system's highest-order functions (staying upright, maintaining focused cognition) fail first. This is why delirium and falls (and not, say, red skin or tachycardia, each of which are also sensitive but not specific signs) are common among frail elderly people when they become ill, even with seemingly trivial illnesses. This is why their apparent causes are so protean. This is why their outcomes are so poor, and why successful management requires a multidisciplinary approach. (It might also be why systematic assessment of mobility and balance could be a better indication of recovery from delirium than assessment of cognition.¹¹)

The apparent ineffability of delirium — and of frailty — may explain the hostility that patients and families tell us they commonly encounter in hospitals, which are organized largely around the “one-thing-wrong-at-once” principle. With complex systems, it is almost impossible to do one thing at once, and the situation is not ameliorated by developing lists of 8 or 9 problems, each treated 1 at a time. Indeed, directly counter to the “one-thing-wrong-at-once” paradigm is the observation that the specific pathway to frailty is less important than the degree of frailty, however achieved.¹² Acutely ill, frail patients, with many things wrong at once, often do not fit the dominant paradigm of care, to say nothing of committing the cardinal sins of not being able to give a history, having complex social arrangements or threatening to have long stays in hospital. As such, the real lesson of this study may be that delirium needs to be managed on wards devoted to the care of frail older adults who are ill.

As Cole and colleagues point out, their findings with a treatment intervention go against recent studies showing that prevention measures produce favourable outcomes,² which suggest that we should close the barn door before the horse gets out. However, although their intervention to treat delirium was not effective, we most emphatically should conclude neither that delirium is not important nor that further efforts to enhance the management of delirium

are unwarranted. The outcomes of delirium are so serious that, if it were a traditional single-system illness, we would have long since got beyond the question of whether we should routinely test for it. The onus is on us to develop more effective ways to manage it, so that we can provide these patients with the same level of care afforded to our other patients.

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