

letters to the editor

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Thrombolysis for acute stroke

Editor – Akinsanya and colleagues (*Clin Med* June 2009 pp 239–41) pertinently discuss the course to be taken when a patient with acute stroke may not be capable of consenting to thrombolysis, weighing potential benefit against respect for autonomy.

I agree with their conclusions, but once the concept of the autonomous patient whose views must be respected is weakened on any grounds, the door opens to wider rejection of respect for autonomy in favour of beneficence. I suggest the truly autonomous patient – capable of infallibly choosing the best course, all things considered, in the individual case – is rare outside the courts and textbooks of medical ethics. People capable of making the best choice (all things, and so on) of jam in the supermarket may have problems choosing the best (all things, and so on) treatment.

Some of those problems were identified by Eraker and Politser.¹ Patients, unlike shoppers, may wish to avoid responsibility for a 'wrong' decision. They may be disinclined to make a concrete choice and insisting that they do can result in 'undue extreme judgements, by requiring [them] to express their wishes with more clarity and coherence than warranted'. There may be significant cognitive or imaginative limits to their appreciating the consequences of their choice. Gains and losses, certain and chance outcomes, may be differentially weighted (as in 'risk aversion'), frustrating decision analysis.

Doctors and patients come together to achieve a result beneficial to the latter's present and future quality of life. A desire for a less than optimal outcome (all things,

and so on) is irrational. If information on which to choose the objective or actual optimal outcome is limited, a subjective and/or antecedent choice must be made – 'antecedent' being that which appears best before the result is known. Objective and subjective, antecedent and actual may coincide, but when they do not, it seems irrational to prefer a less efficacious subjective choice simply because it is 'autonomous'. Thus, I would argue, a doctor suspecting that a choice (all things, and so on) is not optimal because of limitations to the patient's autonomy, should try persuasion. At what stage the patient's wishes can legitimately be ignored remains a teaser.

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Reference

- 1 Eraker EA, Politser P. How decision are reached: physician and patient. In: Dowie J, Elstein A (eds), *Professional judgement. A reader in clinical decision making*. Cambridge: Cambridge University Press, 1988:544–65.

In response

We agree with Dr Moseley that few patients with acute stroke will be able to make completely autonomous decisions regarding thrombolysis and treatment decisions will shift towards beneficence. Beneficence can be considered an ethical imperative for doctors to act in their patients' 'best interests'. Unlike paternalism, where the doctor decides what those 'best interests' are without reference to a patient's wishes, implicit in the concept of beneficence is a respect for patient autonomy as part of their 'best interests'.

Treatment decisions require judgements by both physicians and patients. The physician has knowledge of the likely medical outcomes but needs insight into a

patient's understanding of their illness and attitudes to treatment, death and disability. The patient wishes to understand the diagnosis, prognosis and options. Ideally these two parts of the jigsaw match enabling an autonomous decision to be made.

The information physicians give may be imperfect as the risks and benefits of a treatment cannot be exactly known and because the evidence base behind a therapy is frequently open to interpretation. Patients will often be unable to fully understand their clinical condition, how their disease will impact on them and the risks and benefits of treatment options. Health utility scores that take into account trade-offs between quality of life and survival durations have been developed but are more useful when comparing healthcare programmes. For specific cases competent patients are the best judge of their own welfare.

We should not dismiss choices we disagree with as non-autonomous but rejection of a treatment likely to be of great benefit, unless based on longstanding convictions (such as those of a Jehovah's witness), is likely to indicate that fear and poor understanding prevents consent rather than an autonomous choice.

The suddenness, seriousness, time sensitive and uncertain prognosis means that thrombolysis for acute stroke is one of the most difficult treatment decisions that a patient ever has to make. Fully autonomous decisions do not exist and we can only aim for maximum autonomy and very often treatment decisions will be based upon beneficence.

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*Consultant in stroke medicine**Mayday University Hospital, Croydon***Aciclovir neurotoxicity is an important side effect of therapy in patients with renal impairment**

Editor – We read with interest the article by Bell and colleagues (*Clin Med* June 2009 pp 231–5). They describe aciclovir therapy as essentially safe, highlighting the potential risk of crystal nephropathy. This potentially life-threatening complication is well recognised in nephrology, but not widely publicised, as it is often only evident in the presence of renal impairment. Recognition has implications for all physicians given the prevalence of chronic kidney disease and acute kidney injury. Such concerns might explain five patients not receiving full dose aciclovir in their study.

Aciclovir and latterly valaciclovir are established antiviral agents versus herpes simplex (HSV) and varicella zoster (VZV). Neurotoxic side effects have been described since the early 1980s.^{1–3} Such cases often resulted from recommended aciclovir dosing for HSV encephalitis in the context of renal impairment. As approximately 90% of the drug is renally excreted; half-life and serum levels of aciclovir are markedly elevated in renal disease.

A range of symptoms from tremor to coma have been described, with typical onset 24 to 72 hours after both oral and intravenous aciclovir. Visual hallucinations and death delusion are striking features in patients prescribed aciclovir with previously normal brain function (usually for treatment of shingles or as anti-cytomegalovirus prophylaxis).³ In patients with presumed encephalitis, failure to consider aciclovir neurotoxicity may lead to misinterpretation of neuropsychiatric symptoms as worsening encephalitis; precipitating inappropriate dose increases, rather than reduction or withdrawal.

The exact mechanism is unknown. 9-carboxymethoxymethylguanine (CMMG) is an aciclovir metabolite, present in serum and cerebral spinal fluid. In patients with neuropsychiatric side effects, significantly higher serum CMMG levels have been

demonstrated; with stronger symptom correlation than aciclovir.⁵ Most affected patients had renal impairment.⁵

To improve the therapeutic regimen aciclovir dosing should always be adjusted for renal function⁶ and patients adequately hydrated prior to oral or intravenous administration. Possible aciclovir neurotoxicity should be considered with new neurological symptoms after 24 hours, particularly in the presence of renal impairment. Serum aciclovir measurements require 24 hours in most UK centres and often lag behind clinical signs. Levels might be useful for diagnostic confirmation. Early recognition with appropriate dose changes is crucial. If distinguishing worsening encephalitis from neurotoxicity proves difficult, a trial of haemodialysis might be appropriate.⁷

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- 2 Cohen SM, Minkove JA, Zebley JW 3rd, Mulholland JH. Severe but reversible neurotoxicity from acyclovir. *Ann Intern Med* 1984;100:920–1.
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- 4 Haefeli WE, Schoenenberger RA, Weiss P, Ritz RF. Acyclovir-induced neurotoxicity: concentration-side effect relationship in acyclovir overdose. *Am J Med* 1993; 94:212–5.
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- 7 Beales P, Almond MK, Kwan JT. Aciclovir neurotoxicity following oral therapy: prevention and treatment in patients on haemodialysis. *Nephron* 1994;66:362–3.

Medicine at the sharp end

Editor – We read with interest the article by McNeill and colleagues (*Clin Med* June 2009 pp 214–8) suggesting that benefits from a consultant presence on an acute medical unit (AMU) included greater numbers of same-day discharges and a shorter length of stay. There remains little evidence as to why consultant presence results in these positive outcomes.

We retrospectively audited 145 randomly selected patients admitted via the AMU at the Countess of Chester Hospital NHS Foundation Trust. Patients clerked by a foundation or core medical training grade doctor were then reviewed on the post-take ward round (PTWR) by a consultant or middle grade (specialist registrar (SpR) or staff grade). We studied the number of same-day discharges following the PTWR and accuracy of diagnosis at the PTWR compared with final diagnosis on the hospital discharge summary.

Consultants reviewed 72 patients (mean age 68 years; 33 men) and middle grades reviewed 73 patients (mean age 66 years; 39 men) on the PTWR. Consultants made an accurate PTWR diagnosis in 69 patients (95.8%) which was significantly higher (χ^2 , $p < 0.0001$) than the middle grades who made an accurate diagnosis in 60 patients (82.2%). The main reason for this difference appeared to be that there was only a documented PTWR diagnosis in 89% of the patients reviewed by middle grades, whereas there was a written PTWR diagnosis in all (100%) of the patients reviewed by consultants. Consultants also discharged higher numbers of patients at the PTWR (17 patients *v* 6 patients; χ^2 , $p < 0.01$).

Our data confirm that consultant review at PTWR results in a greater number of same-day discharges and suggests that the benefits of a consultant presence on the AMU may be due to the higher rate of accurate initial diagnosis. This seems to be because of an increased willingness of consultants to commit to a written diagnosis. The Joint Royal Colleges of Physicians Training Board curriculum for general (internal) medicine identifies ‘developing a problem list and action plan’ as a key competency, and we would suggest that trainees should be encouraged to commit to and