

Adding insult to injury: care of patients with acute kidney injury

Acute kidney injury, formerly known as acute renal failure, is both a prevalent and serious problem among hospitalized patients. Although no definitive studies have been undertaken in the UK the prevalence among inpatients in the USA is 4.9% (Waikar et al, 2007). Associated mortality rates have been wide ranging.

In June 2009, the National Confidential Enquiry into Patient Outcome and Death (NCEPOD) published its latest report 'Adding Insult to Injury' – an enquiry into the care received by patients dying with a primary diagnosis of acute kidney injury. The study was designed to look specifically at the care of patients with acute kidney injury, particularly in terms of clinical assessment, investigation, management and referral, as well as organizational factors such as access to nephrologists, radiology services and renal replacement therapy. In turn it was hoped that remediable factors in acute kidney injury care could be identified.

Quality of care

Among its many findings, the study produced some thought-provoking data. When analysed by specialist advisors appointed to the study, it was found that only half the patients in the study received care that was considered good. The remediable factors in those who were graded as having received substandard care were predominantly clinical, inferring poor understanding of both the pathophysiology and management of acute kidney injury among hospital doctors.

Of particular note, the study identified specific factors in the care of patients who were admitted with normal renal function and then died of acute kidney injury (post-admission acute kidney injury) as poor. There was an unacceptable delay in the recognition of acute kidney injury in 43% of these patients, and the highly disturbing finding that 22 patients died from entirely predictable and avoidable post-admission acute kidney injury.

Furthermore, there were clear omissions in the investigation and management of all acute kidney injury patients, with a third not receiving adequate care such as basic clinical examination, simple laboratory tests and physiological monitoring plans. Moreover, NCEPOD found that the complications of acute kidney injury were either missed (13%), avoidable (17%) or badly managed (22%), which may to a degree reflect the further finding of inadequate senior reviews.

Management issues

Specific organizational difficulties were also uncovered. Half of acute admitting hospitals did not have on-site nephrologists, and for 39% of these the nearest nephrologists were in a different city. However, only 30% of patients were referred to a nephrologist, with 21% being referred late. A further 20% should have been referred who were not.

The study also found that four patients died of acute kidney injury who most likely would have been offered renal replacement therapy had they been referred. The advisors found that there were 67 patients who were both referred and given renal replacement therapy, but 36 patients referred who did not receive renal replacement therapy but should have done so. Other support measures were also found to be lacking with a large minority of acute admitting hospitals not being able to offer an urgent ultrasound

or nephrostomy service out of hours or at the weekends.

Lessons

So what do these findings tell us? First and foremost, they reveal that in the 21st century patients are still dying of an entirely predictable and avoidable iatrogenic disease and this appears to be a result of poor clinical input from hospital doctors. Doctors are not always cognizant of the risk to hospitalized patients of either illness-related or iatrogenic renal injury.

This reflects acute kidney injury as a microcosm of a more global failure of the sick patient. Clear evidence exists within this study of a lack of recognition of the acutely unwell or deteriorating patient. The very basics of acute medical care seem to be missing and it is unjustifiable for any doctor not to undertake a clinical examination or make a basic management plan. When these errors are compounded by a lack of simple monitoring tools such as temperature, pulse and respiration charts, catheters and urine output measurements it becomes inevitable that patients are going to die.

How can clinical care ever be adequate if the severity of the problem is not appreciated nor the patient assessed properly? Perhaps these failures reflect the reduced time junior doctors now spend in training, and particularly the accompanying reduced exposure to the acutely unwell this engenders. Through exposure

KEY POINTS

- The care of patients with acute kidney injury is very poor.
- Patients are dying of predictable and avoidable renal failure.
- The failings in the care of patients with acute kidney injury are largely clinical, as a result of poor assessment of risk, inadequate basic intervention and missed complications.
- Acutely unwell patients are not being recognized.
- Postgraduate education about acute kidney injury must improve.

comes experience and through experience sound judgment.

Education is vital

The only way to reverse this lamentable situation is to improve the education of both undergraduates and junior doctors. This must be directed primarily at reinforcing the basics of medical care thus facilitating rapid, appropriate assessment of the acutely unwell. There must be re-emphasis of the necessity for good clinical examination, recording observations and the use of Early Warning Scores to identify those patients who are deteriorating.

Beyond these issues juniors must have good support from consultant staff and NCEPOD recommends that all acute admissions to hospital should have a senior review within 12 hours. With specific reference to acute kidney injury, NCEPOD recommends that access to ultrasound and interventional radiology should be readily available regardless of the time or day, and nephrological advice should be either in-house or within a reasonable distance of all acute admitting hospitals; these hospitals

should also have sufficient critical care and renal beds to allow step up of care where indicated.

Conclusions

The findings of this report should focus the attention of all specialties on the importance of this condition and the need for early recognition and treatment, and ultimately that predictable, avoidable and preventable deaths from acute kidney injury will cease to occur. Furthermore, it is hoped that these findings will not only improve the care of those patients with acute kidney injury but also inform the debate around the management of the acutely ill patient as a whole. Only through heightened awareness and continued education can we achieve better outcomes. Things must improve. Now is the time to act. **BJHM**

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Waikar SS, Liu KD, Chertow GM (2007) The incidence and prognostic significance of acute kidney injury. *Curr Opin Nephrol Hypertens* **16**: 227–36