A PROSPECTIVE STUDY OF THE QUALITY OF MANAGEMENT OF ACUTE KIDNEY INJURY IN SOUTH WEST WALES

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Introduction and Aims

Acute kidney injury (AKI) is well recognised as a cause of increased morbidity and mortality in patients admitted to hospital as an emergency. Early recognition and appropriate initial management of AKI are essential in order to prevent complications. However, there is widespread variation in its management, especially in centres without on-site nephrology services. The aims of this study were: 1. To assess the quality of care provided to patients with AKI in South West Wales and 2. To examine the short-term outcomes in patients with AKI at the time of hospital admission.

Methods

• This was a prospective study conducted in three large district general hospitals over a 2 week period in June 2013.

• All adult patients admitted as emergencies to the medical and surgical units were screened for AKI (excluding those admitted directly to the renal unit in one of the hospitals).

• AKI was defined as S.creatinine >1.5 times the lowest value in the preceding 6 months, or S. creatinine >120µmol/l if no creatinine value was available for the preceding 6 months. Follow-up was until the time of discharge.

Results

• During the study period, AKI was present in 75 of the 1083 patients who were admitted as emergencies (incidence of 6.9%). The characteristics of patients with AKI are shown in Table 1.

• AKI was recognised at the time of admission in 83% of patients in whom it was present. Appropriate management was initiated in a significantly lower proportion of patients (Table 2).

• Specialist nephrology opinion was sought in only 6 of 17 cases (35%) in whom it was deemed necessary (KDIGO stage 3 AKI, unclear cause or complications of AKI).

• Only 2 patients needed dialysis. Sixty-four of the 75 patients survived until discharge (85%), with 59/64 having recovered renal function completely and 5/64 patients not having a documented renal recovery or planned follow-up.

• Either severe sepsis or advanced malignancy was present in the 11 patients who died.

Table 1 - Characteristics of patients with AKI

Mean age	73.2 years
Gender, Male : Female	50% : 50%
Co-morbidity	Diabetes Mellitus 30% Hypertension 41% Ischaemic Heart Disease 35% Chronic Kidney disease 13%
S. creatinine, median (range)	175 µmol/l (93-494)
Proportion on ACE inhibitors / AR blockers	32%

Table 2 – AKI management and outcomes

AKI recognised on admission	62/75 (83%)
Fluid balance monitored	56/75 (74%)
S. Creatinine monitored regularly	50/75 (67%)
Renal imaging within 24 hours	13/75 (17%)
Overall inpatient mortality	11/75 (15%)
Complete recovery of renal function	59/64 (92%)
Temporary renal replacement therapy	2/75 (3%)
S. Creatinine at discharge, median (range)	120 µmol/l (40-338)

Conclusions

• The incidence of AKI amongst general medical and surgical admissions was low and the renal outcome was excellent in those in whom AKI was recognised and treated early.

• A significant proportion of patients with AKI are managed by non-renal physicians.

• There is scope for improvement in the management of AKI, particularly with regards to recognition, seeking specialist opinion and appropriate follow-up.

• We are implementing an e-alert system and clinical management guidelines in order to improve the quality of care given to patients with AKI, particularly in centres without on-site nephrology services.

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