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The indications for and timing of haemodialysis in critically ill patients with acute kidney injury at Chris Hani Baragwanath Academic Hospital

Brown, Patricia Mary

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ABSTRACT

Background

Acute kidney injury (AKI) is common amongst patients admitted to the intensive care unit (ICU). It is an independent risk factor for morbidity and mortality. The optimal timing of renal replacement therapy (RRT) remains unknown resulting in a wide variation in observed current practices. There is a paucity of data on current practices within South African ICU's.

Objectives

The aim of this study was to describe current practices in the timing of RRT in patients with AKI admitted to the ICU.

Methods

A retrospective, descriptive study in an adult academic ICU in Soweto from 1st January 2013 to 31 December 2014.

Results

There were 2152 ICU admissions over 2 years. Seventy-six (3.5%) patients required RRT. Sepsis was present in 83%. The most common indication for RRT was oliguria/anuria 38 (50%) followed by worsening urea/creatinine 22 (29%), metabolic acidosis 9 (11.8%), refractory hyperkalaemia 4 (5.3%), fluid overload 2 (2.6%) and other 1 (1.3%). Forty two patients (55%) had RRT instituted on admission day (D_0), while 34 (45%) after D_0 (D_{1-21}). Ninety percent (90%) of D_0 RRT and 94% of D_{1-21} RRT group had KDIGO stage 3 AKI. Once a decision to initiate RRT was made, the median time to starting RRT was 4 hours (IQR 4). The composite outcome of death, RRT dependence and diuretic dependence at ICU discharge was 21% with no difference between the two groups (p=0.22). The ICU mortality was 3%.

Conclusion

The sampled population was young, predominantly male and post emergency surgery with a high burden of sepsis and human immunodeficiency virus. The observed current threshold for RRT was late (stage 3 AKI with classical/emergent indications) with outcomes comparable to literature reviewed.