

Acute Kidney Injury: Resurgence of Its Importance as a Cause of Chronic Kidney Disease

Acute kidney injury (AKI) has always been one of the most intriguing topics in nephrology with its ever-increasing incidence worldwide despite best efforts to curtail it by the nephrology community. AKI has an incidence of approximately 13.3 million persons per year and 85% of whom reside in the low or medium resource countries.¹

AKI carries a high mortality rate (>2.3 million deaths worldwide every year), 3-fold increased cost of resources in AKI patients and the development of chronic kidney disease in >30%.² Therefore, it remains an area of ongoing high quality research to date but yet lack standardization possibly due to population differences and healthcare workers' lack of proper education and awareness of AKI. This is quite aptly highlighted throughout the first to 20th Acute Dialysis Quality Initiative (ADQI) consensus conferences, Acute Kidney Injury Network (AKIN) initiative as well as Kidney Disease Improving Global Outcomes (KDIGO) consensus statements.^{2,3} Apart from the disparity in standardization of criteria of AKI, there has been considerable debate regarding lack of inclusion of aetiology and need for renal replacement therapy (RRT) within different classifications devised to date.⁴

The difference in etiology of AKI amongst the developed and developing countries add further disparity to reaching a consensus in prevention and management as highlighted by International Society of Nephrology AKI0by25 initiative.¹ The marked difference in morbidity and mortality between community acquired AKI (CA-AKI) predominantly occurring in developing countries and hospital acquired AKI (HA-AKI)⁷ and AKI in intensive care unit predominantly occurring in developed countries further complicates the issue.⁵ CA-AKI is a result of infections, diarrhea, obstetric causes and snake bite whereas HA-AKI aetiology mainly includes hospital acquired infections, drug toxicity, systemic disease complications and multiorgan failure secondary to myocardial infarction or sepsis.⁸⁻¹¹

The current issue of PJKD publishes a retrospective study by Habib et al determining the causes and outcomes of AKI in patients of different age groups, requiring hospitalization at a tertiary care hospital in a developing country.¹² This study extrapolates AKI classification based on the causes, age and outcome. The study conforms to previous studies data highlighting Pregnancy related AKI (P-AKI) to be on the top. However, despite high dialysis institution, majority of patients recovered completely with low mortality. Furthermore, an unusually high number of obstructive uropathy was reported in this study. Quite remarkably CKD conversion was only 26% in this study. This data where highlights the acuteness of the disease state at the same time is encouraging in terms of the outcomes.

Recently the American Society of Nephrology has proposed, AKI!Now, an initiative to promote excellence in preventing and managing AKI with goals to transform education and delivery of AKI care, to decrease morbidity and mortality, and to improve long-term outcomes.¹³ It further proposes to include 'prerenal AKI' and 'subclinical AKI' in the already existing classifications of AKI in order to underscore causality and pathophysiology in the understanding and management of AKI under different settings and different populations. This quality initiative takes into account lack of awareness of AKI amongst healthcare teams especially in the developing world.

There has been considerable research in the field of novel biomarkers for early diagnosis of AKI but due to higher cost they have limited applicability to only research centres.¹⁴ In our part of the world limited number of studies have been published but have proven to be more of an audit rather than adding any significant knowledge to the AKI research pool in terms of management and largely highlights lack of awareness in the public as well as healthcare teams.¹⁵ Recent COVID 19 has also increased interest in AKI pathophysiology due to novel viral diseases and results of ongoing research worldwide is eagerly awaited as it poses significant mortality risk to COVID 19 patients.¹⁶

The way forward remains open to exploration and resolution of existing controversies in AKI with regards to risk assessment, diagnosis, fluid management, hemodynamic management, drug stewardship and RRT.

Wide variation exists within local as well as international centres in adaptation of new technologies as many still follow a conservative approach to AKI management and is a sufficient justification for Revisiting the 2012 KDIGO AKI guidelines.¹⁷ In Pakistan, we need to develop a digital database for reporting AKI as well as to envision a government initiative for provision of education/awareness to the public, healthcare workers and policy makers in order to reduce morbidity and mortality resulting from AKI. In this respect the current study by Habib et.al. is a sign of renewed interest in AKI and we look forward for further publications.

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