

AKI!NOW

Promoting Excellence in the Prevention and Treatment of Acute Kidney Injury

By Jorge Cerdá, MD, MS, FASN, Chair, AKI!Now Steering Committee

Acute kidney injury (AKI) does not discriminate in its impact. From the very young to the elderly, it can strike at any time, stems from a wide variety of causes, and demonstrates a complex variety of symptoms. The resulting kidney damage is often severe and life-threatening. Those who recover from AKI have a greater likelihood of important health consequences including recurrent AKI, progression to chronic kidney disease or end stage kidney disease, disability, and death.

Given the current state, in addition to developing newer paradigms and treatments, improvement in AKI outcomes will require a very large discussion involving all the disparate members of the healthcare team involved in AKI care, with the goal of promoting education, awareness, early recognition, and thorough understanding of this complex syndrome.

Recognizing these obstacles, through a partnership with Baxter, the American Society of Nephrology has established a new initiative, *AKI!Now*, with the goal of promoting excellence in AKI prevention and treatment by building a foundational program that transforms education and delivery of AKI care, contributes to reducing morbidity and associated mortality, and improves long-term outcomes. This is the first of a series of communications on the planned activities of the AKI!Now Steering Committee.

Multiple factors conspire against efforts to improve AKI outcomes. These include unreliable and late AKI recognition. In particular, first-contact practitioners may be unaware of the problem and may not recognize it in its early stages, when timely intervention is most effective. In addition, once the possibility of AKI is recognized, traditional markers of kidney function are late to change, and are confounded by patient characteristics and fluid status. Despite recent discovery of multiple sensitive and specific biomarkers, their incorporation into routine practice has been inconsistent.

A growing evidence body suggests that widely held paradigms, such as the distinction between “prerenal” and “intrinsic” kidney injury are not consistently appropriate, and may lead to reflex fluid administration, which is often not only unnecessary, but can cause fluid overload, which is associated with worse outcomes. Newer concepts, largely based on the development of novel biomarkers, increasingly permit the detection of “sub-clinical” AKI when injury biomarkers indicate absence of damage, and to predict the likelihood of a patient developing AKI even before injury occurs.

Furthermore, AKI is not solely a kidney problem. Developing evidence demonstrates that via “organ cross-talk,” AKI is associated with key changes in the function of distant organs such as increased risk of brain and pulmonary edema and cardiac dysfunction, which then complicate treatment and become important determinants of patient outcome.

Part of the reason for our inability to design effective AKI treatments may stem from the heterogeneity of the syndrome; subjects widely differ in their susceptibility, mechanism of injury, and likelihood of recovery. Utilization of a variety of AKI prediction scores, development of context-heightened awareness, enhanced estimation of the probability of AKI development, and use

of functional maneuvers such as a protocolized diuretic challenge and “renal angina” detection, will make the application of biomarkers efficient and permit an accurate description of the individual and his or her disease, which should in turn allow for the development of a highly individualized, personalized treatment.

Until recently, the role of the protagonist of the problem—the patient and his/her family—has been virtually absent from consideration. Emerging evidence shows we need to learn in-depth about the patient experience and leverage the potentially powerful healing contribution patients and family can provide.

Finally, the medical community has been slow to recognize that AKI does not end upon patient hospital discharge, but that it continues to impact the patient during the long-term recovery process. Recent evidence highlights that late complications including cardiovascular disease, recurrent AKI episodes, and progressive kidney failure are much more common than usually assumed.

Scope of the AKI!NOW Initiative Assessing existing knowledge and resources

Early work will focus on a comprehensive review of current AKI-focused initiatives, an examination of the academic body of work housed on multiple ASN platforms, and a needs assessment.

First, the Steering Committee will assess AKI initiatives including the *Acute Kidney Injury Programme: Think Kidneys* (U.K.), the International Society of Nephrology (ISN) *0x25 AKI Initiative*, and the multiple products of the Acute Dialysis Quality Initiative, as well as the results of the recent KDIGO AKI Controversies Conference. Review of these programs will allow the committee to identify knowledge gaps and potential areas of collaboration.

Second, the landscape analysis will extend to a wide scan of ASN resources, with the goal of developing a web-based clinical compendium of the most up-to-date AKI-focused content. This analysis will include ASN Kidney Week, the ASN Board Review Course and Update, *JASN*, *CJASN*, *Kidney News*, and *Kidney News Online*.

Acknowledging the breadth of practitioners who care for and often first encounter AKI, the Steering Committee will conduct a needs assessment among the medical community where this first encounter occurs, including primary care providers, intensivists, nurses, advanced practice providers, and emergency room personnel, as well as better understand the importance of the role of the patient in the healing process. Focus groups of heterogeneous composition will be implemented to better understand the needs and give a voice to all main stakeholders.

This foundational work—review of AKI initiatives, ASN resource review, and needs assessment—will allow the Steering Committee to identify, catalogue, and describe available data concerning:

- Identification of AKI high-risk populations,
- Prevention of AKI in high-risk populations,
- Timely management of AKI in high-risk populations, and
- Current best AKI treatment pathways and practices.

Resource development

With this background on current resources and identified needs, the Steering Committee plans to release a White Paper on “Identification and Management of AKI in High-Risk Populations.”

Simultaneously, a web-based compendium will point researchers to abstracts, publications, and news items available through ASN. This online resource will allow users to search, save, review, and mark articles as favorites, to form a periodically updated library of key AKI knowledge.

The Steering Committee will assess the need for educational tools focused on early recognition, treatment pathways, and best demonstrated practices that nephrologists should pursue to optimize patient outcomes, covering the continuum of care and including:

- Early recognition and management: recognition tools including risk scores, e-alerts,
- Use of AKI biomarkers,
- Management of non-dialysis-requiring AKI,
- The pharmacology of AKI: avoiding kidney injury and optimizing drug management,
- Management of severe, dialysis-requiring AKI (AKI-D),
- Management of AKI-D among patients discharged to outpatient dialysis units,
- Promotion of AKI recovery,
- Establishment of appropriate post-AKI follow-up criteria, and
- The patient perspective: learning from the experience of undergoing AKI.

Utilizing insight gained from the needs assessment, these educational tools may include, for example, fact sheets, materials targeted to non-nephrology healthcare providers, a series of Perspective articles published in the ASN core journals, and webinars/podcasts focused on AKI identification and treatment best practices.

During Kidney Week 2019, we will conduct the first of a series of focus groups to test our approach and perspectives in a heterogeneous group of persons, representative of the actual individuals who are involved in the day-to-day recognition and management of AKI. Results of that discussion will then be disseminated among ASN members for discussion and critique.

Further, members of the AKI!Now group will continue to actively participate in the online Open Forums, which have been so successful in involving a large number of participants from around the world.

More information will be upcoming in the weeks preceding and during ASN Kidney Week, to ensure wide ASN membership participation and feedback. ■

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