Reviewer's report

Title: Etiology and outcomes of acute kidney injury in chinese children: a prospective multi-center investigation

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Reviewer: Thomas Vates

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Major Compulsory Revisions:

The authors provide an important prospective epidemiologic survey of acute kidney injury (AKI) in the study population they defined, but there are some major issues that need revision as outlined below.

I) in the abstract, the authors state that sepsis is one of the major causes of AKI (34.9%), but closer review of data presented in table 2 suggests that sepsis causes 34.9% of mortality associated with AKI. The authors may do better to describe the percentage conditions associated with AKI, conditions associated with chronic renal insufficiency, conditions associated with need for dialysis, and conditions associated mortality from AKI. This could illuminate very interesting trends.

2) In the Introduction, the authors use the terms “prerenal failure, intrinsic renal disease…and obstructive uropathies”. In most of the literature, the terminology used are prerenal, renal, and postrenal disease. Unless the authors are suggesting a new terminology and are able to provide convincing arguments for this new classifications system, I would suggest the authors conform to the prevalent classification scheme.

3) In the Results, the authors describe two different kinds of hospitals from which patients were recruited. The readership of this journal includes many for whom these classifications are not well known. The difference between “provincial or municipal childrens' hospitals” and “Grade III class A hospitals” is not well known to me, and the authors would do well to describe this better. For readers in different countries, the characteristics they would specifically want to know are a. Is this a training hospital? b. Does this hospital have pediatric critical care? c. What is the size of the hospital? d. Do these different types of hospitals all have pediatric nephrologists and pediatric urologists? It would be important to know these characteristics, because this allows the readership to generalize these results to the population in their community or country. e. The contribution of patents from each hospital should be mentioned. Did one
or two hospitals contribute the majority of the patients?

4) In the Results section, the discussion of mortality is difficult to understand because the mortality is not separated from data in Table 2. The authors should provide a separate table describing the incidence of prerenal, renal, and post renal conditions in patients that suffered mortality. Also, the numbers described in the mortality results do not match what is in Table 2, which is why I would ask the authors to pull this data out separately for re-review: “Of the 188 renal AKI patients” this should be prerenal according to the data in Table 2. “There were 39 deaths among the 723 renal AKI cases.” This should be renal AKI cases. Finally, “no deaths occurred among the 723 post renal AKI patients” this should be 323 post renal cases.

5) The authors may want to include another table that compares the dominant causes of AKI as a function of age. It would be beneficial to “collapse” some of the categories listed in Table 1 into “super-categories”, e.g., traffic accidents, drowning and crush syndrome could be collapsed into “childhood trauma. This might provide some interesting data about trends of causes associated with different age groups.

6) Some minor revisions:

a. Discussion, 4th paragraph: as mentioned above, sepsis cannot be considered a major cause of AKI (although it is a major condition in patients that suffer mortality). Neonatal jaundice was a more common cause in patients with AKI, and should be included before sepsis.

b. Discussion, 6th paragraph: the authors point out that sepsis was a common condition in patients who suffered mortality, although sepsis was only present in 4.9% of patients presenting with AKI. The authors specifically state “sepsis, malignant tumors, and HUS accounted for a relatively small proportion of cases” which again emphasizes the important of separating sepsis from a common cause of AKI, but remains an important condition associated with mortality of AKI.

c. In Table 1, the “breakpoints” for age categories are not commonly used in the pediatric nephrology or urology literature. I would suggest that the authors use neonate (<1 month), infant (1 month – 1 year of age), toddler (1 year – 5 years of age), child (6 years – 10 years of age), preadolescent (10 years – 13 years of age) and adolescent (14 years – 18 years of age). Another option is to use similar age groups as used in references 5 or 9.

**Level of interest:** An article of importance in its field

**Quality of written English:** Not suitable for publication unless extensively edited

**Statistical review:** No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:

I declare that I have no competing interests