



Is the urinary tract dilation classification really that good? Reply to Kim et al.

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Dear Editors,

We read with pleasure the article by Kim et al. on the urinary tract dilation (UTD) classification system [1]. They performed a review and meta-analysis of the value of the UTD classification for predicting surgical intervention or episodes of urinary tract infection (UTI). They noted that higher urinary tract dilation grades were associated with surgical intervention and UTIs.

They found a statistically significant odds ratio for surgery in P2-P3 vs. P1 or P0-P1 and a significant increased risk of UTI for P2-P3 vs. P1, and to a lesser extent for P3 vs. P1-P2. The authors, encouraged by these results, state that their results support the clinical utility of the UTD classification and advocate its wide adoption for the diagnosis, risk stratification, and management of pediatric hydronephrosis.

We believe there should be more caution in the conclusions. The findings should be interpreted in the context of the many study limitations, some of which, the authors mention. Indeed, not only can practice patterns affect the number of episodes of UTI, but so can the definition of what a UTI is, and whether it is febrile or not. Indications for surgery, as mentioned, were not standardized, meaning that surgery could at least partly have been decided based on ultrasound findings, biasing all children with higher-grade dilation towards “need for surgery.” The independence of the classification and outcome is, in effect, not clearly demonstrated.

Furthermore, though the UTD is a four-grade classification, it is essentially being used as a two-grade classification. Grouping grade P0 with P1 and P2 with P3, as has been done in many papers, ends up comparing minor dilation

(<15 mm) without ureteral dilation to significant dilation with ureteral dilation. This is saying that children with minor abnormalities are less likely to have a significant disease than those with significant abnormalities [2]. The utility of such a score is not clear.

Performing a review and meta-analysis is an excellent way to improve the relevance of scientific data. However, all conclusions must align as closely as possible to what the data demonstrates. In our minds, this study indicates that significant kidney dilation with ureteral dilation is probably less good than minor kidney dilation without ureteral dilation, but this was already known.

Declarations

Conflicts of interest None

References

1. Kim HW, Hwang J, Pai KS, Suh YA (2024) Urinary tract dilation classification system for predicting surgical management and urinary tract infection in neonates and young infants: a systematic review and meta-analysis. *Pediatr Radiol*. <https://doi.org/10.1007/s00247-024-05854-3>
2. Lee RS, Cendron M, Kinnamon DD, Nguyen HT (2006) Antenatal hydronephrosis as a predictor of postnatal outcome: a meta-analysis. *Pediatrics* 118:586–593

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