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LETTER TO THE EDITORS

Two dosing regimens for steroid therapy in nephrotic syndrome

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Dear Editor,

We read with great interest the article entitled "Weight or body surface area dosing of steroids in nephritic syndrome: is there an outcome difference?" by Saadeh et al. which was recently published in *Pediatric Nephrology* [1].

In this article, the authors concluded that dosing of steroids per body surface area (BSA-based dosing) is superior to dosing per kilogram body weight (BW-based dosing) in terms of reducing the frequently relapsing course rate in nephritic syndrome (NS) patients. Although the limitations of these findings were described, such as the overriding effect of age or short observation period [2], the hypothesis that BW-based dosing would result in altered treatment outcomes is very interesting. To investigate whether the two dosing regimens might not be equivalent, we therefore retrospectively reviewed the medical records of children diagnosed with idiopathic NS at our institution.

Forty-six consecutive children (36 boys, 10 girls) with newly diagnosed idiopathic NS observed for more than 24 months in Saitama Children's Medical Center from January 2000 to January 2010 were enrolled in the study; patients with steroid-resistant NS at onset or a BW of >30 kg were excluded. Of the 46 patients, 16 (35 %) had received steroid therapy based on BSA, while the remaining 30 (65 %) had received steroid therapy based on BW. The choice of dosing regimen depended on the treating physician. The age of the children at onset varied from 1.0 to 11.4 (median 4.0) years.

Although there were no significant differences between the two groups in terms of gender ratio, age, serum albumin at onset, time to response to initial therapy, or proportion of adverse events, the onset time for relapses after initial therapy was significantly shorter for children in the BW-based dosing group than for those in the BSA-based group (2.0 vs. 6.0 months; $p<0.05$). Further, the proportion of steroid-dependent NS was also significantly higher among children in the BW-based dosing group than among those in the BSA-based group (53.3 vs. 12.5 %; $p<0.05$).

Our study, although retrospective in nature, indicates that for children with idiopathic NS, BW-based and BSA-based steroid dosing are not equivalent if the child's BW is <30 kg.

In conclusion, our findings are in agreement with the simulation study by Saadeh et al. [1] that BW-based dosing might lead to "underdosing." Based on our retrospective analysis, we would like comment that in order to enable accurate comparisons between trials, consistent dosing regimens should be used in future trials involving children with idiopathic NS.

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