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LETTER TO THE EDITORS

Hemoconcentration in hemolytic uremic syndrome: time to review the standard case definition?

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Sirs,

Hemoconcentration at disease onset has been postulated as a factor of worse prognosis in children with post-diarrheal hemolytic uremic syndrome (D + HUS). Previous studies have demonstrated a significant association between hemoconcentration and severe bowel injury, the need for and longer duration of dialysis, and acute phase death [1, 2]. In their recent paper published in *Pediatric Nephrology*, Ardissino and colleagues found in a cohort of 61 patients that hemoconcentration at admission also correlated with major neurological involvement [3].

Of particular importance, given that anemia is a hallmark of the disease but that the more severe cases in their study were associated with little or no anemia, the authors postulate that anemia, based on hematocrit or hemoglobin level, should no longer be considered an absolute diagnostic criterion of D + HUS. Rather, they propose that signs of hemolysis (high lactate dehydrogenase levels, schistocytes, and haptoglobin consumption) should be considered to be equally important indicators for diagnosis, even if anemia is not present at disease onset [3].

In line with their statement, our data provides further support to this notion. Analysis of 154 patients with D + HUS treated in our institution revealed that, regardless of the severity of the disease, a considerable proportion of these patients did not have marked anemia at presentation. Thirty-five patients presented with an initial hematocrit level of ≥30 % (23 %), of whom 24 (16 %) had hematocrit values ranging from 30 to 35 % and the remaining 11 (7 %) presented with initial hematocrit levels of >35 %. Remarkably, three patients presented hematocrit levels as high as 44, 45 and 49 %, respectively.

Because patients with hemoconcentration at admission are at increased risk of severe forms of the disease, early diagnosis is mandatory to provide them with the best therapeutic treatment and to promptly determine whether the child should be transferred to a tertiary care center. However, given that anemia is an absolute diagnosis criterion, diagnosis of D + HUS may be delayed when there is little or no apparent anemia. Consequently, we believe that the revision of the standard case definition of D + HUS proposed by Ardissino et al. [3] should be carefully considered.

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