Letter to the Editor

Mean platelet volume is not associated with bacterial sepsis in newborns

We read with great interest the article by Renshaw et al.1 published recently in this journal, which demonstrated that infection with respiratory syncytial virus (RSV) is associated with decreased mean platelet volume (MPV). The authors stated that the MPV was significantly lower in patients with positive versus negative rapid RSV assays, as well as viral cultures. Children with RSV undergoing bronchoscopy (n = 7) also had significantly lower MPV than children without RSV (n = 79) (8.8–1.0 vs. 10.2–1.1 fl, p < 0.004). MPV < 8.9 fl had a sensitivity of 71% and specificity of 49% for RSV in children undergoing bronchoscopy. They mentioned that their results supported the idea that infection with RSV is associated with a decrease in MPV regardless of whether the infection is detected by rapid assay or culture. Also, for children undergoing bronchoscopy for presumptive pneumonia or airway obstruction, an MPV <8.9 fl was relatively sensitive and specific for infection with RSV. This change was not due to anemia, since there was no significant difference in hemoglobin between the RSV-positive and RSV-negative patients.

Although experience of MPV as an important predictor for many diseases is increasing, this is still the subject of debate, and experience is scarce in the pediatric population, especially in newborns. MPV is associated with respiratory distress syndrome (RDS), necrotizing enterocolitis (NEC), bronchopulmonary dysplasia (BPD), intraventricular hemorrhage (IVH), and sepsis in newborns.2–4 Another study from our center demonstrated a statistically significant difference with regard to baseline MPV values between patients with sepsis (proven or clinical) and healthy controls. However, the patients in that study were term and late preterm newborns.

We would like to present our experience related to MPV in proven sepsis with positive bacterial culture in extremely low birth weight (ELBW; birth weight <1000 g) newborns. We evaluated the MPV values of 152 ELBW newborns. The mean birth weight was 789 ± 167 g and mean gestational age was 26 ± 2 weeks. Forty one (26%) of the infants had proven bacterial sepsis. The groups were similar when demographic and infant characteristics data were compared. MPV values were not statistically different between the groups. The mean MPV value of the patients with proven bacterial sepsis was 7.5 ± 0.7 fl; the mean MPV value of the patients who did not have proven bacterial sepsis was 7.6 ± 0.7 fl. There was no statistically significant difference between the groups (p = 0.63). This change was not due to anemia, since there was no significant difference in hemoglobin levels between the patients who had proven sepsis and who had not. MPV was not elevated in patients with proven bacterial sepsis compared with controls.

As part of their study Renshaw et al.1 examined the MPV of patients with other types of viral infection and could not demonstrate a consistent relationship between these other viral infections and changes in MPV. Thus they suggest that the effect of RSV on MPV is specific to this virus, at least among the commonly detected viruses in their hospital. As stated by the authors, our results support the idea that the effect of RSV on MPV is specific to this virus because bacterial sepsis in ELBW infants has no effect on MPV.

Conflict of interest: The authors declare that there are no conflicts of interest.

References


Hatice Tatar Aksoya,* Zeynep Eras* Nilufer Gazgolu* F. Emre Canpolat* Uğur Dilmenerb

*Zekai Tahir Burak Maternity and Teaching Hospital, Neonatal Intensive Care Unit, 06110, Hamamonu, Ankara, Turkey
bDepartment of Pediatrics, Yıldırım Beyazıt University School of Medicine, Ankara, Turkey

*Corresponding author. Tel.: +90 312 3065271; fax: +90 312 2362101 E-mail address: haticetatar@yahoo.com (H.T. Aksoy)

Corresponding Editor: Eskild Petersen, Aarhus, Denmark

Received 15 May 2013