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ABSTRACT

The Predictive Value of CBC for Febrile Seizures: Retrospective Study

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Febrile seizures (FS) are seizures that occur between 3-72 months of age, with a temperature of 38 C or higher, absence of central nervous system infection, and incidence of 2-5% in neurologically healthy children. Two forms of FS are simple FS (SFS) and complex FS (CFS). The overlap between the peak FS onset and the onset of iron deficiency anemia diagnosis drives this study to investigate the relationship between anemia and febrile convulsion types. A retrograde study of 170 children between the ages of 6-72 months diagnosed with febrile seizures at different West-Bank hospitals during 2016, 2017, and 2018 was conducted. Data collection for the computerised documentation hospitalisation system for CBC values includes Haemoglobin (HB), Haematocrit, mean corpuscular volume, and red blood cell distribution width. Analysis was performed on 127 patients, using IBM 23 SPSS. Results showed that FS was presented in two age peaks, at 18 and 24 months, presenting 8.7% each. The sample was distributed between 57.8% females and 42.2% males. Within different patterns of FS, generalized tonic clonic seizure presented the most frequent pattern in 88.3%, generalized Tonic 5.3%, generalized Atonic 3.2%, and focal 3.2%. Complexity was distributed as 78.6% simple and 21.4% complex. There were no significant differences between SFS and CFS patients in relation to age, grade of fever, gender, infection focus, and family history of febrile seizures, and no significant relation between the HB level and complexity ($T(123)= 1.104, p= .272$) or other inflammatory CBC markers. We suggest that hemoglobin may be an age dependent protective factor of SFS. Further data is planned to be collected to provide a larger sample and to add control cases to compare them with the febrile seizures patients.