Trabalhos Científicos

Título: Point Of Care Diagnostics In Typical Haemolytic Uremic Syndrome With Biofire® Filmarray® Gastrointestinal Panel

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Resumo: Introduction: Haemolytic Uremic Syndrome (HUS) is characterized by a trilogy of symptoms: haemolytic anemia, thrombocytopenia, and acute renal injury. HUS has been classified in two groups, typical HUS or atypical HUS, depending on the microbiologic findings. The typical syndrome is caused by Escherichia coli in 90% of the cases (usually O157: H7) and the treatment is based on hemodynamic and renal support. The atypical HUS is caused by a failure in complement activation and the treatment is based on the administration of eculizumab, a complement inactivating agent. The treatment and prognosis of these groups are completely different and an early etiological diagnosis is required. Objective: The objective is to demonstrate that with the BioFire Gastrointestinal Panel (BGP), a real-time PCR multiplex, we are able to shorten the time required to arrive at an accurate diagnosis of the typical uremic syndrome. Materials and Methods: Stool samples of every patient with HUS symptoms that came to our hospital between October 2017 and March 2018 were analyzed with our conventional method (stool culture) and with the BGP. Variables measured: age, lengths of hospital stay, intensive care unit (ICU) required, lengths in the ICU, renal replacement therapies (RRT) required, days of use of RRT, findings by the BGP, findings by stool culture, time to BGP results, time to stool culture results, morbidity, and mortality. Results are present in frequencies for qualitative variables. For quantitative variables with parametric distribution we used the mean and the standard error (SE); and for nonparametric distribution, we used median and Mann-Whitney U-test for groups comparison. Results: N= 13 patients. Age mean of 37.95 months (19-73 months), lengths of hospital stay 21.67 days (SE +/- 6.95 days), the mean time to get a final BGP result was 4.45 hours (SE +/-1.4 hours), with a median of 2.12 hours. 84.6% of the patients needed ICU support, with a mean length of ICU stay of 11.45 days (SE +/-2.56 days). 84.6% of patients required RRT, with a mean use of 8.18 days (SE +/- 0.98). All of them needed peritoneal dialysis, except one patient who also required 6 days of haemodialysis. The mean time to the final result of the stool culture was 106.08 hours (SE +/- 6.72), with a median of 96 hours. 2 patients presented neurologic symptoms and after been discharged, one needed epilepsy treatment. 1 patient (7.7%) died during treatment. There was a statistically significant difference between time to results for BGP vs stool culture with a $p>0.001$. All patients were typical HUS by BGP. One of them had negative stool culture. Conclusions: The HUS is a pathology with strong impact on children health, with ICU support and RRT required. The BGP enables a point of care diagnostic in the Typical HUS, and this rapid diagnosis permitted the start of early and accurate treatment, and better patient outcomes.