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Título: Rapid Detection Of Streptococcus Pneumoniae Meningitis In Acute Lymphoblastic Leukemia By Biofire® Filmarray® Meningitis / Encephalitis Panel: Case Report

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Resumo: Introduction: Although most cases of the bacterial meningitis are caused by Streptococcus pneumoniae (Sp), Neisseria meningitides (Nm) and Haemophilus influenzae (Hib), factors such as the patient's age, geographical location, and clinical context must be considered in the etiological evaluation. Invasive infections caused by Sp constitute one of the main causes of morbidity and mortality in children. It is the most frequent cause of bacterial pneumonia acquired in the community, sepsis, and meningitis in unvaccinated and immunocompromised populations. The usual test used for diagnosis is bacterial culture, a method that not only allows to identify the agent but also provides critical antimicrobial susceptibility information. The previous use of antibiotics can affect culture performance, so that complementing the study with molecular diagnostic methods, such as multiplex polymerase chain reaction (PCR) for the most frequent bacteria, improves the sensitivity, specificity and the time to etiological diagnosis. Clinical case: a 13-year-old female with a history of high-risk acute lymphoblastic leukemia with relapse in the central nervous system under treatment since 2015. Reason for consulting: vomiting, headache, and fever of 72 hours of evolution. She went to a peripheral health care center where amoxicillin 1500 mg/day was prescribed. This happened 48 hours before admission. Physical examination: regular general condition without stiff neck or meningeal signs. In view of the clinical suspicion of a new relapse in the central nervous system vs acute infection, lumbar puncture was performed: cerebrospinal fluid (CSF) leukocytes: 1130 with 90% polymorphonuclears, proteins 0.5 g / l and glucose 0.24 g / l (glycemia: 110 g / l); Latex co-agglutination test was negative for Sp, Hib, Nm. CSF culture was also negative. Biofire® FilmArray® Meningitis / Encephalitis Panel (BFMEP) was requested: CSF was positive for Streptococcus pneumoniae. The patient completed 10 days of treatment with intravenous ceftriaxone, with good clinical evolution. Conclusion: The addition of BFMEP to conventional microbiological diagnostic methods in CNS infections significantly increases the probability of detecting the etiologic agent, simultaneously ruling out other possible common agents (viral, mycotic, etc) present on the BioFire panel. BFMEP allowed an earlier and rational management of the disease, avoiding empirical treatments and excess of studies.