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Epidemiological Aspect and Antibiotic Susceptibility Profile of Bacteria Responsible for Meningitis in Children in the Pediatrics Department of the CHU Donka National Hospital of Conakry, Guinea

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ABSTRACT

The meningitis represents a major public health problem in the tropical countries. To determine the sensitivity to antibiotics of bacteria associated with meningitis in children at Donka National Hospital in Conakry. This is a prospective and descriptive cross-sectional study conducted from January 20th to April 20th, 2022. A total of 110 cerebrospinal fluids samples (CSF) from suspected children were cultured on different agar media. The results showed that 13 samples were positive. Three different bacterial species were identified: *Streptococcus pneumoniae* (54%=7/13), *Hemophilus influenzae* b (31%=4/13) and *Escherichia coli* (15%=2/13). Males predominated, with a sex ratio (M/F) of 1.6. The commune of Ratoma was the most represented with 36%. The most clinical manifestations were fever (54%), vomiting (35%), meningeal stiffness (20%), convulsion (24%) and headache (27%). All the *Streptococcus pneumoniae* strains were susceptible to levofloxacin and ofloxacin (100%), while 57% of these strains were susceptible to amikacin, 43% to tobramycin as well as to nitrofurantoin and 29% to gentamicin. For *Hemophilus influenzae*, 75% of the strains were susceptible to gentamicin as well as to tobramycin, ciprofloxacin, levofloxacin, and ofloxacin, while the susceptibility to amikacin was 50%. Finally, all *Escherichia coli* strains were sensitive to ciprofloxacin, levofloxacin, ofloxacin and nitrofurantoin, while only 50% of these strains were susceptible to amikacin and tobramycin.

Conclusion: This study showed that three bacterial species were associated to meningitis in children, of which *Streptococcus pneumoniae* was mainly encountered. Quinolones and aminoglycosides were the most active antibiotic families on these strains studied. The study populations being made up of children and the fact that quinolones are not recommended in this category of patients, aminoglycosides should be chosen for the empirical treatment of children. However, the treatment of cases of meningitis requires antibiotic treatment whenever possible based on the results of an antibiogram.

Keywords: Antibiotic, Sensitivity, Bacterial meningitis, Children, Donka university hospital

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