326. Malaria vs. Bacterial Meningitis in Children With Spinal Tap in the Luanda Children’s Hospital, Angola

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Background. In Sub-Saharan Africa, both malaria (M) and bacterial meningitis (BM) cause significant morbidity and mortality. The two conditions are often difficult to differentiate, not only due to their clinical presentation, but also to their differential diagnosis procedure. This study aimed to compare the clinical outcome, causative serotypes, and antimicrobial susceptibilities between M and BM in Angola, where the two diseases are frequent.

Methods. We conducted a prospective study in the Children’s Hospital (HPDB) in the city of Angola that attends 300 new infants daily. Spinal tap (ST) was performed for children presenting with altered consciousness, convulsions, prostration, or meningism. The analysis included children aged 1-15 years with confirmed discharge diagnosis in 2016-2017.

Results. Of 941 children, the diagnosis was M in 56% (525), BM in 12% (61) epilepsy/convulsions in 9% (88), and other infections in 6% (60). Of all children, 16% (150/941) died, 6% (57/333) had severe, 14% (93/655) any neurological sequelae, and 27% (243/897) either died or had neurological sequelae. In children with M, the corresponding figures were 1% (5/525), 2% (11/525) and 8% (42/525), respectively. For BM, the figures were 4% (41/776), 15% (85/54), 33% (111/335), and 55% (58/105), respectively. Comparing with M, children with BM were younger (median age (IQR) 28 (61) vs. 60 (68) months, P < 0.0001), had an underlying illness (23/97 vs. 19/374, P < 0.0001), like sickle-cell disease (18/96 vs. 9/372, P < 0.0001), longer duration of illness (4 (4) vs. 3 (3) days, P < 0.0001), dyspepsia (70/119 vs. 210/463, P = 0.009), were dehydrated (36/113 vs. 67/441, P < 0.0001), or maldemulitus (38/118 vs. 75/447, P = 0.0001). Multivariate analysis revealed as independent risk factors for death or neurological sequelae age <12 months (OR 1.71, 95% CI 1.02–2.82, P < 0.0001), duration of illness >3 days (2.48, 1.68–3.64, P < 0.0001), malnutrition (1.92, 1.20–3.05, P = 0.006), and dehydration (1.92, 1.16–3.14, P = 0.01). When BM vs. M was included in the analysis, BM appeared as the most important risk factor (OR 8.06, 4.44–16.45, P < 0.0001) and age lost its significance.

Conclusion. In suspected CNS infections, M was the final diagnosis of most children. However, BM caused more deaths and neurological sequelae. Amendable factors such as delay in treatment, dehydration, and malnutrition, appeared as risk factors for poor outcome.

Disclosures. T. Pelkonen, sanofi Pasteur: Investigator.

327. Comparison of Clinical Outcome, Causative Serotypes, and Antimicrobial Susceptibilities Between Pneumococcal Meningitis and Pneumococcal Bacteremic Pneumonia in Adult Patients in the Republic of Korea

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Background. Pneumococcal meningitis (PM) is one of invasive pneumococcal disease (IPD) and is considered as a medical emergency with notable morbidity and mortality. This study was designed to characterize differences in clinical characteristics and outcomes, pneumococcal serotypes, and antimicrobial susceptibilities between PM and pneumococcal bacteremic pneumonia (PBP) in adult patients in the Republic of Korea (ROK) from a prospective observational cohort.

Methods. Adult IPD cases (218 years) were prospectively collected from 20 hospitals participated in the pneumococcal surveillance program in the ROK from 2013 through 2015. Serotyping and antimicrobial susceptibility testing were performed by a multiplexed serotyping assay and microscan, respectively.

Results. During the study period, 30 cases of PM and 205 cases of PBP were compared. Serotypes 19A, 15B/15C, and 35B were the most prevalent among PM cases, whereas serotypes 3, 11A/11F, and 19A were the most common serotypes in PBP. There were significant female predominance (46.7% vs. 2.3%, P = 0.02), younger age (56.7% vs. 36.1%, P = 0.03), less immunocompromised states (3.3% vs. 28.8%, P = 0.005), less underlying chronic lung diseases (3.3% vs. 16.6%, P = 0.04), and lower mortality rate (16.7% vs. 44.4%, P = 0.004) in PM, compared with PBP. However, PM cases showed higher penicillin resistance (76.7% vs. 19.2%, P = 0.001), and cefotaxime resistance (53.3% vs. 13.4%, P < 0.001), consistent with higher MDR prevalence in PM cases (76.7% vs. 53.2%, P = 0.016). All PM cases except for three cases received empiric or definite vancomycin treatment. Multiple logistic regression analysis showed that penetration resistance (odds ratio 0.07, 95% CI 0.00–0.72, P < 0.001) and survival (OR 20.73, 95% CI 3.1–136.7, P = 0.002) were significantly associated with PM.

Conclusion. This study indicates that adult PM showed favorable clinical outcomes, compared with PBP despite differences of clinical characteristics.

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328. National Expertise Group to Improve Management of Complex Encephalitis Cases

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Background. Incidence of infectious encephalitis in France is evaluated to be 0.5 to 1/100,000 inhabitants. That means encephalitis are rare infections, and not all physicians do not have expertise about this disease. In case of complex presentations, they can ask for advices from events or guidance from a multidisciplinary group. The French infectious diseases society implemented a group of expertise in 2016 to address clinicians’ difficulties with complex cases in a timely manner.

Methods. Experts were delegated by scientific societies (Infectious Disease, Microbiology, Neurology, Intensive care and Public Health) with regards to their expertise in brain infections. Any physician facing difficulties to manage a patient presenting as a complex case can ask for advice, using a specific e-mail address (encepha-lite.splif@infectiologie.com). They have to provide a detailed summary of the clinical case, together with all available biological and etiological results and, when possible, an access to brain images. The cases are then circulated by mail or discussed in a conference call, within 48 hours. At the end of the discussion, a written answer is produced (detailed recommendations and justification). The traceability of the advice is kept by the French infectious diseases society for both teaching purposes and legal matters.

Results. So far we had to manage 120 cases, providing a service at national level. It is also the opportunity to extend our network in the field of neurological infections, and to use the submitted cases as education material for young fellows.

Disclosures. All authors: no reported disclosures.
Conclusion. Prior HI or H/SS significantly increased the odds for pneumococcal meningitis. Surveillance data from the Centers of Disease Control and Prevention indicate that 60–75% of invasive pneumococcal disease in adults is due to serotypes included in the pneumococcal vaccines. Given the number of unvaccinated cases, some of these cases may have been vaccine preventable. Such patients may benefit from pneumococcal immunization to reduce the risk of pneumococcal meningitis.

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331. Vascular Complications Among Children and Adolescents With Acute Complicated Sinusitis

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Background. The characteristics of intracranial vascular complications in children from bacterial sinussitis is not well known. The objectives of the study were to describe the types of vascular complications and pathogens in acute complicated sinussitis and identify the proportion of vascular complications due to Streptococcus anginosus vs. other pathogens.

Methods. We conducted a retrospective cohort study by identifying hospitalized patients with ICD 9/10 codes of acute sinussitis at Children’s Hospital Colorado from 2010–2016. After identifying patients with complicated sinussitis (bacterial meningitis, intracranial abscess/empyema, venous thrombosis, stroke, or orbital cellulitis/abscess based on ICD 9, ICD 10, or imaging findings), we reviewed patient demographics, clinical characteristics, and clinical outcomes. Patients with cultures positive for S. anginosus compared with other patients who met inclusion criteria. Bivariable relationships were examined using χ² tests and t-tests or Wilcoxon rank-sum tests.

Results. Among 416 inpatients with acute sinussitis, 235 had acute complicated sinussitis. Of these, 75 were excluded due to immunocompromised status, cystic fibrosis, craniofacial abnormality, and fungal disease. The most common pathogen was S. anginosus, identified in 64/160 (40%) cases. Vascular complications were observed in 21/160 (13%) children (Figure 1). The rate of vascular complications was higher in the S. anginosus group, compared with the non-S. anginosus group, although not reaching a statistical difference (18% vs. 9%; P = 0.085). The most common vascular complication was dural venous sinus thrombosis (30%). Children with S. anginosus infection were older (11.8 vs. 7.2 years), had an abnormal MRI (97% vs. 68%), and neurological deficit (56% vs. 35%), and required surgery (98% vs. 35%), longer antibiotic duration (42 vs. 16 days), and ICU admission (34% vs. 11%), P < 0.01 unless otherwise mentioned.

Conclusion. Vascular complications among children with complicated sinussitis are common, with a high proportion due to S. anginosus. There is a greater burden of S. anginosus compared with other bacterial pathogens as demonstrated by worse neurologic and radiographic outcomes in this group.

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332. Phaeohyphomycosis Due to Scopulariopsis brumptii in a Hematopoietic Stem Cell Transplant (HSCT) Recipient

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Background. Scopulariopsis brumptii is an emerging pathogen that has been associated with meningitis, pneumonia, and other infections. However, the clinical presentation of S. brumptii meningitis is not well described. We report the clinical characteristics of a patient with S. brumptii meningitis and multiple CNS complications in the post-HSCT setting.

Methods. We report a case of S. brumptii meningitis in a 41-year-old female who was a 21 year post-HSCT for a Cell Transplant (HSCT) Recipient. She had a history of aplastic anemia and diabetes mellitus. She was treated with a single dose of Busulfan and received a total body irradiation before transplant. She underwent an allogeneic HSCT for acute myeloid leukemia in first complete remission. She was graft-versus-host disease (GVHD) prophylaxis with mycophenolate mofetil and cyclosporine A. She had no prior history of fungal infections. She developed fever and uncontrolled diabetes mellitus on day 60 of her post-HSCT phase. She was started on ganciclovir for a positive cytomegalovirus (CMV) PCR result. Her fever persisted despite treatment with antibiotics and ganciclovir. She developed a right-sided, cranial nerve VI palsy that was attributed to compression of the oculomotor nerve by an expanding intracranial mass. She was started on voriconazole and lipo-amphotericin B. Her diabetes was controlled. She had an improvement in her neurological symptoms. A repeat CT scan of the brain done 10 days after the initiation of therapy showed a decrease in the size of the mass. She was discharged on voriconazole and lipo-amphotericin B.

Results. The patient had a response to voriconazole and lipo-amphotericin B. She improved clinically and had a decreased size of the intracranial mass on follow-up imaging. She was discharged on voriconazole and lipo-amphotericin B.

Conclusion. This case report highlights the importance of considering S. brumptii as a cause of meningitis and CNS complications in the post-HSCT phase. It also highlights the importance of prompt diagnosis and aggressive treatment of S. brumptii infections.