

**Figure 1.** MRI of brain showing nonspecific focus of signal abnormality in the posterior limb of the right internal capsule.

**Disclosures.** All authors: No reported disclosures.

**345. Diagnosis of Acute Bacterial Meningitis by Polymerase Chain Reaction Vis-a-vis Conventional Culture Method**

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**Session:** 55. CNS Infections  
**Thursday, October 4, 2018: 12:30 PM**

**Background.** Bacterial Meningitis is one of the leading causes of mortality and morbidity worldwide requiring immediate diagnosis followed by medical intervention to prevent sequelae. Molecular methods can help to detect the pathogens offering a prompt and accurate diagnosis.

**Methods.** One hundred CSF and blood samples were collected from suspected/clinically diagnosed cases of meningitis over a period of 1 year. CSF samples were processed by conventional and molecular methods. The objectives of the study were to identify the common bacterial etiological agent, to assess the utility of PCR in diagnosis of acute bacterial meningitis, and to know the antimicrobial susceptibility pattern.

**Results.** Out of 100 samples, maximum cases presented with frank meningeal signs (45%) followed by clinically suspected cases (42%). Microscopic examination, CSF culture, PCR detected 7%, 24%, and 40% positive cases, respectively. Thirteen percent were detected positive by blood culture. The positivity on CSF culture was comparable to the study done by Mani et al. (40.5%). The predominant pathogens isolated were *K. pneumoniae* (37.5%) followed by *Streptococcus pneumoniae* and *Acinetobacter* spp. (each 16.67%). PCR positive followed by Gene sequencing revealed *Pseudomonas aeruginosa* (34.78%) as the predominant pathogen. Culture is considered as the gold standard. However, it fails to identify fastidious organisms and often gives false-negative results. Therefore, the gold standard was modified to consider parameters like-clinical signs of meningitis, CSF biochemistry indicative of meningitis and CSF positive on any one microbiological test (CSF staining/CSF culture/blood culture). The performance of PCR was then improved to sensitivity (67.74%); specificity (72.46%); diagnostic accuracy (71%); PPV 52.50% and NPV 83.34%. The kappa coefficient -0.372 showed a fair agreement, considering the modified gold standard. This criterion was also used in study done by Welinder-Olsson et al.

**Conclusion.** Gram-negative enteric bacteria were the most common etiology reported by both the methods. PCR could detect more cases than conventional culture method indicating its utility in the diagnosis of acute meningitis. Apart from microbiological parameters, clinical and other laboratory parameters should be considered to achieve a precise diagnosis.

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**346. Prognostic Factors in Adults with Encephalitis: An Analysis of 340 Cases**  
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**Background.** Encephalitis continues to be a significant cause of morbidity and mortality with only a few studies assessing prognostic factors.

**Methods.** A multicenter retrospective review of adults with encephalitis as defined by the international encephalitis consortium between 2000 and 2017 at 19 hospitals in New Orleans, Louisiana, and Houston, Texas. An adverse clinical outcome was defined as a Glasgow outcome scale between 1 and 4. Logistic regression analysis was used to evaluate prognostic factors.

**Results.** A total of 340 adults were enrolled. The mean age was 48 years with 184 (54.1%) being male. Out of 340 patients, 268 (79%) had probable or confirmed encephalitis and 71 (21%) had possible encephalitis. An etiology was documented in 151 cases (44.5%) with the most common etiologies being arboviruses (17%), Herpes simplex virus (HSV) (16.5%), and anti-N-methyl-D-aspartate receptor antibody (13.4%). An adverse clinical outcome was observed in 172 out of 322 (53%) of patients. On bivariate analysis, age >60 years, respiratory failure, intensive care admission, fever, abnormal neurological examination, abnormal electroencephalogram, and abnormal magnetic resonance imaging (MRI) of the brain were associated with an adverse outcome ( $P < 0.05$ ). On logistic regression, only abnormal neurological examination (odds ratio [OR] 4.310, 95% confidence interval [CI] 1.148-12.508), abnormal MRI of the brain (OR 2.131, 95% CI, 1.016-4.469), and fever (OR 2.127, 95% CI, 1.079-4.194) (all  $P < 0.05$ ) remained independently associated with an adverse outcome.

**Conclusion.** Encephalitis in adults is associated with adverse clinical outcomes in 50% of patients with significant predictors being fever, abnormal neurological examination, and abnormal MRI of the brain.

**Disclosures.** All authors: No reported disclosures.

**347. Capnocytophaga canimorsus Meningitis: Diagnosis Using Polymerase Chain Reaction Testing and Systematic Review of the Literature**

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**Background.** *Capnocytophaga canimorsus* is associated with sepsis following dog bites especially in asplenic patients. Meningitis is a rare entity and may be associated with delayed diagnosis due to poor or delayed growth. We provide our experience using polymerase chain reaction (PCR) to establish the diagnosis and performed a comprehensive review of *C. canimorsus* meningitis providing data on clinical manifestations, diagnosis, and outcomes of this unusual infection.

**Methods.** A systematic review of the peer-reviewed English literature (PubMed, Embase, Ovid Medline) from January 1966 to March 2018 was performed to identify cases of *C. canimorsus* meningitis in addition to our case. Data collected included demographics, risk factors, cerebrospinal fluid (CSF) findings, PCR testing, treatment, and outcomes. Descriptive statistics are presented as numbers (percentages) and medians (ranges).

**Results.** A total of 37 cases with a median age of 63.5 years (range 12 days-83 years) with a male predominance (75%). A relatively low proportion had an immunocompromised state: 17% splenectomy and 6% steroid use. The most common risk factor was alcoholism (19%). Sixty-four percent reported a dog bite (all <10 days prior to presentation); 22% non-bite dog exposure; 3% cat bite; and 11% no animal contact. CSF mean white cells of 1,894 cells/mm<sup>3</sup>, neutrophils 76% (±19%), protein of 225 mg/dL (±149), and glucose CSF/serum ratio of 0.24 (±0.15). In 16 (43%) cases, blood cultures were positive for *C. canimorsus* (median 4.3 days) and 27 (73%) had positive CSF cultures (median 4.4 days). PCR established the diagnosis in seven (19%) cases. Antibiotic therapy was given for a median of 14 days (range 7-42 days). Prognosis was overall favorable with one (3%) mortality; 19% of survivors had sequelae: four hearing loss, one headaches, two neurological deficits, and two with extremity amputations.

**Conclusion.** *C. canimorsus* meningitis is a rare clinical entity occurring in patients of all ages typically after dog exposure. While classically considered a disease of immunocompromised patients, most cases occurred in previously healthy, immunocompetent persons. Diagnosis may be established by PCR and testing should be considered in culture-negative cases with associated risk factors. Outcome was generally favorable after a median antibiotic duration of 14 days.

**Disclosures.** All authors: No reported disclosures.

**348. Streptococcus agalactiae, Streptococcus pneumoniae, Neisseria meningitidis, and Enterobacteriaceae as Leading Causes of Bacterial Meningitis in Infants Younger than 3 Months Old in a Mexican Hospital: 6 Years of Active Surveillance**

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