Methods. A multicenter retrospective chart 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. Patients were classified as younger adults (<65 years) and older adults (≥65 years of age).

Results. A total of 340 adults were enrolled; 71 (21%) with possible and 268 (79%) with probable or confirmed encephalitis. An etiology was documented in 151 (44.5%) cases with the most common causes being arboviruses (17%); Herpes simplex virus (HSV)(16.5%), and anti-N-methyl-D-aspartate receptor antibody (13.4%). A total of 62 (18.3%) were older adults. Older adults were more likely than younger adults to have headache, focal neurologic deficit or petechial rash, abnormalities on head computerized tomography scan, and to have a positive HSV polymerase chain reaction (PCR) and a positive arboviral serology (P < 0.05). Older adults were also less likely to have human immunodeficiency virus (P = 0.004) and to receive adjunctive steroids (32.4% vs. 60.8%, P = 0.002). There were no significant differences between older and younger adults regarding symptoms, neurological examination findings, CSF profile, use of empiric antibiotic and antiviral therapy, and need for mechanical ventilation or intensive care unit admission (P > 0.2). Older adults were also more likely to have an adverse clinical outcome than younger adults (65% vs. 50.5%, P = 0.04).

Conclusion. Older adults with encephalitis more commonly have HSV and arboviruses and have higher rates of adverse clinical outcomes despite having similar clinical presentations.

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342. Time to Antimicrobial De-escalation/Discontinuation After Implementation of Cerebrospinal Fluid Polymerase Chain Reaction Tool
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Background. Cerebrospinal fluid (CSF) polymerase chain reaction (PCR) technology can be used as a rapid diagnostic tool that has the potential to more rapidly facilitate targeted antimicrobial therapy and reduce overall time to de-escalation and/or discontinuation of inappropriate antimicrobial usage in patients with suspected meningitis/encephalitis.

Methods. This was a single-center, retrospective cohort analysis with a primary objective focusing on time to de-escalation or discontinuation of inappropriate antimicrobials before and after implementation of a rapid diagnostic meningitis/encephalitis (ME) panel (BioFire FilmArray®). The pre-implementation group, containing 84 patients, examined individuals with positive CSF cultures performed in the 6-months prior to implementation. The post-implementation group, containing 88 patients, examined individuals who had an ME panel done in the 6 months following a transitionary 1-month period following implementation. Categorical data analysis was performed using χ² or Fisher’s exact test and continuous data was analyzed using the Mann–Whitney U test.

Results. Time to de-escalation/discontinuation of inappropriate ampicillin reported in median hours (IQR) was 47.5 (55) for pre-PCR group compared with 39.5 (23.5) in post-PCR group (P = 0.004). Time to de-escalation/discontinuation of Cefotaxime for pre-PCR group was 50.5 (42) compared with 45 (10) for post-PCR (P = 0.007). Using a subgroup analysis based on age, the results for ampicillin and cefotaxime were mirrored in the pediatric population; however, results were insignificant in the adult population. Subgroup analysis of the adult population showed significance in terms of de-escalation/discontinuation of acyclovir reported (in median hours) as 49 (68) in pre-PCR and 19 (18) in post-PCR group (P = 0.002).

Conclusion. Time to de-escalation and/or discontinuation of ampicillin and cefotaxime was significantly reduced after implementation of the ME panel suggesting clinical significance in high-risk populations such as neonates. Time to de-escalation and/or discontinuation of acyclovir was significantly reduced in the adult population.

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343. Compliance to Standard of Care in the Diagnosis and Management of Suspected Encephalitis
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Background. Encephalitis is associated with death or neurological disability in 50% with the majority of the patients having an unknown etiology. The IDSA guidelines on the management of encephalitis were published in August 2008 but compliance with their recommendations is unknown.

Methods. A retrospective study was conducted at 17 hospitals in the Great Houston area from August 2008 through July 2015. All cases met the definition for possible or probable encephalitis as per the international encephalitis consortium recommendations. Data extraction from the medical record was done utilizing a standardized form. Extracted data included information on demographics, clinical presentation, diagnostic testing, and treatment.

Results. A total of 264 adults and children with encephalitis were enrolled. Compliance with IDSA guidelines was excellent for obtaining an MRI of the brain (92%), an electroencephalogram (92%) and obtaining a cerebrospinal fluid (CSF) bacterial culture (86.7%). Empirical antibiotic and acyclovir therapy was started in about 65% of patient with a CSF HSV PCR being done in 78.8%. A CSF VZV PCR was only done in 31.4% while an arboviral serology was done in 57.1% of patients. Compliance was lowest in ordering a CSF N-methyl-D-aspartate receptor antibody (NMAda) and voltage-gated potassium channel (VGKC) antibodies (19.3% and 5.6%, respectively). The tests with the highest yield were a CSF NMAda receptor antibody (39.2%) and a CSF VZV PCR (13.2%).

Conclusion. Diagnostic evaluation of patients with encephalitis and compliance with IDSA guidelines is suboptimal.

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344. Post Malaria Neurological Syndrome: A Rare Complication of Malaria
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Background. Post malaria neurological syndrome (PMNS) is a rare neurological complication that can occur after recovery from malaria, usually following severe Plasmodium falciparum malaria. A total of 43 cases have been previously reported in the literature.

Methods. We report a patient with neurological symptoms following 1 month of clinical and microbiological resolution of severe falciparum malaria following treatment consistent with PMNS.

Results. A 24-year-old male presented with fever, confusion, dysarthria, and grand mal seizure. His recent medical history was significant for severe falciparum malaria with multisystem dysfunction, including acute kidney injury after being noncompliant with antimalarial prophylaxis while working for the Peace Corps in Togo prior to falling ill. He fully recovered but still required dialysis, and returned to the United States. He presented to the hospital 1 month after his initial malaria infection. On physical examination, the patient was febrile to 38.9°C, lethargic and responsive only to painful stimuli. Signs of meningsismus were absent. Computed tomography of head, abdomen and thorax were unremarkable. Magnetic resonance imaging of the brain revealed a non-specific focus of signal abnormality in right internal capsule. Cerebral spinal fluid (CSF) analysis revealed WBC of 75/μL, with lymphocytic pleocytosis and elevated protein of 65 mg/dL. CSF bacterial and viral polymerase chain reaction pane and cryptococcal antigen were negative. CSF VDRL was nonreactive. HIV antigen/antibody serology was negative. Blood, CSF, and urine cultures were all negative for growth. Two malaria smears were negative. Initially, he was started on broad spectrum antibiotics. Acyclovir and Coartem were discontinued following negative laboratory results, and a steroid taper was initiated. His mental status began improving on the second day of the initiation of the steroid taper, and he fully recovered by day 5 of steroid therapy.

Conclusion. In patient with recent medical history of malaria who presents with neuropsychiatric symptoms, clinicians must have a high index of suspicion for PMNS.
346. Prognostic Factors in Adults with Encephalitis: An Analysis of 340 Cases

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**Session:** 55. CNS Infections

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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 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 mixed 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 323 (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 1.931, 95% CI 1.016–6.496, P < 0.05), 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.

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

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**Session:** 55. CNS Infections

**Thursday, October 4, 2018: 12:30 PM**

**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 12–83 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/mm³ (±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 was established in the diagnosis in 7 (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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