Methods. Subjects with suspected neurosyphilis were recruited from the infectious disease clinic after referral to LAC+USC Hospital. Informed consent was obtained and subjects underwent clinical examination, including a standardized neurological and neurocognitive evaluation and CSF sampling. A CSF-specific VDRL, FTAAb, and a T. pallidum particle agglutination index were calculated.

The TpppA Index >2.0 was defined as positive and definitive evidence of neurosyphilis.

Results. 40 subjects were recruited, 8 were HIV-negative and 32 HIV-positive, of which, 1 declined to continue after CSF sampling (Table 1). Employing the CSF TpppA index, 7/31 HIV positive (22.6%) and 1/8 HIV-negative individuals (12.5%) had neurosyphilis (Table 2). Discordant results with the CSF VDRL were common; 4/31 subjects (12.9%) with a positive CSF VDRL had a TpppA Index < 0.0 (0.227, 0.227, 0.315, and 0.400) and 4/31 subjects (12.9%) with a negative CSF VDRL had a positive TpppA Index (2.234, 3.335, 3.797, and 4.548, Table 3). Neurocognitive and neurologic abnormalities were commonly encountered in this population both with and without documented neurosyphilis.

Conclusion. Our investigations demonstrate the value of CSF sampling in persons with any stage of syphilis and establish the utility of T. pallidum-specific antibody testing to greatly facilitate clinical decision-making. The diagnostic tools to evaluate the T. pallidum-specific immunological response of the CNS to syphilis are currently widely available, inexpensive, but woefully underutilized.

Table 1. Subject demographics

|     | HIV-positive | HIV-negative |
|-----|--------------|--------------|
| Subjects | 32 (30 male, 2 female) | 8 (4 male, 4 female) |
| Median Age in years (Range) | 41 (23–62) | 41 (27–63) |
| Median RRIP run (Range) | 1/45 (1/4–1/2048) | 1/6 (1/2–1/128) |

Table 2. Key laboratory values

|     | HIV-positive | HIV-negative |
|-----|--------------|--------------|
| CSF | WBC (cells/μL) | 2 (0–125) | 2 (0–125) |
|     | Glucose (mg/δL) | 57 (47–78) | 56 (48–93) |
|     | Proteins (mg/δL) | 25 (10–55) | 18 (13–45) |
|     | Albumin (mg/δL) | 12.8 (4.2–23.7) | 9.9 (7.3–16.0) |
|     | CSF VDRL, Positive | 7 | 1 |
|     | CSF FTAa, Positive | 19 | 1 |
|     | TPPA Titer | 2 (0–200) | 0 (0–100) |
| Serum | Proteins (g/dL) | 7.4 (6.0–8.1) | 7.4 (7.2–8.4) |
|     | Albumin (g/dL) | 4.2 (2.4–4.9) | 4.3 (4.0–5.3) |
|     | HIV Viral Load | 1.6 (1.3–6.22) | NA |
|     | CD4 Cell Count | 371 (8–570) | NA |
|     | TPPA Titer | 1000 (100–1000) | 1000 (700–10,000) |

Table 3. Statistical measures of HIV only patients

|     | True Positive1 | True Negative2 |
|-----|---------------|---------------|
| VDRl Positive | 3 | 4 |
| VDRl Negative | 4 | 21 |
| Sensitivity = 43% | 43% |
| Specificity = 84% | 84% |

Disclosures. All authors: No reported disclosures.

1409. Next-Generation Sequencing-based Detection of Angiostrongylus cantonensis (AC) Using Microbial Cell-free DNA Sequencing of Plasma in Atypical Cases of Rat Lungworm Meningitis Presenting with Ascending Paralysis

Marin Melish, MD1; Chanel Casamis, MD1; Rachel Merrifield, MD1; Keisuke Abe, MD1; Aisin A. Ahmed, MD2; David H. Kong, MD2; Lily Blair, PhD3; Natasha Ching, MD1;1 University of Hawaii, Honolulu, Hawaii; 1Karius, Inc, Redwood City, California; 2Karius, Inc., Redwood City, California

Session: 155. CNS Infections
Friday, October 4, 2019: 12:15 PM

Background. AC or Rat Lungworm meningitis usually presents as a self-limited illness with headache and sensory changes, rarely progressing to coma, death, or permanent brain damage. It is usually diagnosed by eosinophils in the CSF. Since limited to Asia and the tropical Pacific AC transmission via slugs and snails documented on US mainland in 2018. We describe 2 unusual, severe examples of AC infection in infants presenting with ascending paralysis and initial CSF without eosinophilia suggesting Guillain–Barre syndrome (GBS).

Methods. Conventional lab testing of serum and CSF, brain and spine MRI, AC PCR by Hawaii Department of Health, and mcDNA next-generation sequencing (NGS) of plasma (Karius).

Results. Two infants, aged 8 and 11 months, presented with fever, lower extremity weakness, and ascending paralysis. An initial evaluation in both included normal brain/spine imaging and CSF with modest lymphocytic pleocytosis without eosinophils. Paralysis progressed despite IVIG. Case 1: 11-month male: Admitted on fever day 5. Paralysis progressed to respiratory failure requiring ventilation for 20 days. illness day 16: MRI showed spinal cord swelling C3-C7. Brain normal. CSF#3: WBC 269 28% eos, ↑ protein. Visible 8 mm long adult worms, PCR positive for AC. Rx high-dose corticosteroids, alendazole for 4-8 weeks. Day 29 illness MRI: Cerebral infarct L frontal lobe, worm tracks medulla, inflammation cauda equina. Slow improvement over 5 months. Case 2: 8-month-old female: Admitted fever day 8. Weakness progressed to arms and trunk. Day 10 illness: MRI: CSF #2: Visible worms present, WBC 84, 26% eos. PCR positive for AC. Rx: High-dose steroids and alendazole x4 weeks. MRI spine illness day 36: inflammation cauda equina. Weakness improved by illness day 37. McDNA sequencing of plasma detected AC in acute stage peaks of 123 and 12 molecules/microliter in cases 1 and 2. Serial mcDNA testing showed a decline in the AC DNA level in plasma which correlated with treatment and clinical response.

Conclusion. AC infection may mimic GBS or transverse myelitis. AC diagnosis may require real-time PCR testing as AC in plasma holds promise as rapid, noninvasive diagnosis and assessment of response to therapy. High-dose steroids with alendazole may be effective even in severe AC.

Disclosures. All authors: No reported disclosures.

1410. Serious Cryptococcal Infections with Ruxolitinib Use: A Case of Meningitis and a Review of the Literature

Jeremy Harvey, MD1; Ly Tran, DO2; Rahul Sampath, MD3; Chris White, DO4;1 Virginia Commonwealth University, Richmond, Virginia; 2Virginia Commonwealth University, Richmond, Virginia; 3Virginia Commonwealth University, Richmond, Virginia; 4Virginia Commonwealth University, Richmond, Virginia

Session: 155. CNS Infections
Friday, October 4, 2019: 12:15 PM

Background. Ruxolitinib is an inhibitor of Janus kinase (JAK) 1 and 2 and is approved for the treatment of myelofibrosis and polychromatemia vera. Infectious complications associated with its use include reactivation of herpes simplex, zoster, hepatitis B, and tuberculosis, mucormycosis, and progressive multifocal leukoencephalopathy.

Methods. Seven cases of ruxolitinib-associated cryptococcal infections have been reported: three cases of meningitis, two cases of pulmonary disease, and two cases of disseminated disease (Table 1).

Results. We present a 72-year-old male with a history of JAK-2 positive polychromatemia vera with secondary myelofibrosis, and concurrent multiple myeloma who presented with 3 weeks of chronic cough and 3 days of fever with severe bifrontal headache after remodeling a large birdcage in his backyard. The patient was on ruxolitinib, itaxoamin, and weekly dexamethasone. Cerebrospinal fluid (CSF) analysis showed an elevated opening pressure of 29 cm of CSF. 124 leukocytes with multiple myeloma peaks of 323 and 124 molecules/microliter. 12 molecules/microliter in cases 1 and 2. Serial mcDNA testing showed a decline in the AC DNA level in plasma which correlated with treatment and clinical response.

Conclusion. AC infection may mimic GBS or transverse myelitis. AC diagnosis may require real-time PCR testing as AC in plasma holds promise as rapid, noninvasive diagnosis and assessment of response to therapy. High-dose steroids with alendazole may be effective even in severe AC.

Disclosures. All authors: No reported disclosures.