Abstracts • OFID 2021:8 (Suppl 1) • S455

Figure 1. TDU GC-MS/MS spectral comparison in histoplasmosis vs. the other invasive mycoses aspergillosis or mucormycosis. A: Cyperene; B: (1R,4aR,8aR)-2,5,5,8a-Tetramethyl-4,5,6,7,8,8a-hexahydro-1H-1,4a-methanophthalene; C: viridiflorol; D: 1H-Indene, 2,3,3a,4-tetrahydro-3,3a,6-trimethyl-1-(1-methylethyl); E: β-funebrene; F: trans-a-bergamotene; G: eremophilene; H: spathulenol; I: cedrene; J: cedranoxide, 8,14-

Conclusion. Conclusion: Patients with histoplasmosis have a unique secondary metabolite breath signature that can be used for the noninvasive diagnosis of pulmonary and disseminated histoplasmosis. Many patients in this cohort did not undergo urine antigen testing or other diagnostic workup for histoplasmosis, which may have affected our specificity estimates.

Disclosures. Francisco M. Marty, MD, SCYNEXIS, Inc. (Scientific Research Study Investigator)

712. Neurocysticercosis at a Large Academic Center in the USA Maya Ramanathan, MD1; Leopoldo Cordova, MD2; Jovanna Bertran-Lopez, MD1; Paola Lichtenberger, M.D3; Paola Lichtenberger, M.D1, 2University of Miami Miller School of Medicine, Miami, FL; 1University of Miami/Jackson Memorial Hospital, Miami, FL; 3University of Miami Miller School of Medicine, Miami, FL

Session: P-34. Eukaryotic Diagnostics

Background. Neurocysticercosis (NCC) is a parasitic infection that results from the ingestion of eggs from the adult tapeworm Taenia solium that develops when cysticercoids migrate into the central nervous system. In addition, this infection has been found to affect over 50 million individuals worldwide. In the United States, NCC mainly affects immigrants from Latin America, where the disease is endemic with seroprevalence rates ranging from 5% to 11%. Most data regarding NCC in the United States comes from hospital reports from California and Texas. We are undertaking this study to determine the differences seen in a higher Latin American and Haitian population compared to a previously seen predominantly Mexican population. In this retrospective review, we characterized the population diagnosed with NCC at one large tertiary medical center in South Florida, University of Miami Hospital.

Methods. This retrospective chart review included adult patients from January 2009 to December 2019 with the admission or discharge diagnosis of neurocysticercosis (ICD 10 Code B 69.0 Neurocysticercosis and CPT code 86682 Cysticercosis). We extracted data on demographics, clinical symptoms, recurrence, treatment, resolution and follow up.

Results. Forty-seven patients were analyzed to completion. Most of the cases were seen in Hispanics 72.3 % and from Central America 40.4%. The most common symptom was headache 53.2% followed by seizures 42.6%. Normal physical exam was noted in 93.6% of the cases. Most of the cases have 1–10 lesions (98%), located in the brain parenchyma (75%). Serum serology, CSF antibody or stool studies were not obtained in around 90% of the cases. Treatment was indicated in 70.2% of cases and recurrence was low at 17.0%. Refer to Tables 1–5 for full results.

Figure 1. Demographics and Clinical Symptoms

Table 1: Clinical Symptoms

| Symptom         | Yes (%) | No (%) | Unknown (%) |
|-----------------|---------|--------|-------------|
| Headache        | 60.6%   | 33.7%  | 5.7%        |
| Seizures        | 46.8%   | 46.8%  | 6.4%        |
| Fever           | 42.6%   | 42.6%  | 14.8%       |
| Weight loss     | 21.3%   | 36.2%  | 42.5%       |
| History of Head | Yes (%) | No (%) | Unknown (%) |
| Age of onset    | 37.2%   | 37.2%  | 25.6%       |

Figure 2. History and Imaging

Table 2: History and Physical Exam

| Symptom         | Yes (%) | No (%) | Unknown (%) |
|-----------------|---------|--------|-------------|
| Headache        | 60.6%   | 33.7%  | 5.7%        |
| Seizures        | 46.8%   | 46.8%  | 6.4%        |
| Fever           | 42.6%   | 42.6%  | 14.8%       |
| Weight loss     | 21.3%   | 36.2%  | 42.5%       |
| History of Head | Yes (%) | No (%) | Unknown (%) |
| Age of onset    | 37.2%   | 37.2%  | 25.6%       |

Table 3: Imaging Characteristics

| Symptom         | Yes (%) | No (%) | Unknown (%) |
|-----------------|---------|--------|-------------|
| Headache        | 60.6%   | 33.7%  | 5.7%        |
| Seizures        | 46.8%   | 46.8%  | 6.4%        |
| Fever           | 42.6%   | 46.8%  | 6.4%        |
| Weight loss     | 21.3%   | 36.2%  | 42.5%       |
| History of Head | Yes (%) | No (%) | Unknown (%) |
| Age of onset    | 37.2%   | 37.2%  | 25.6%       |
Conclusion. NCC is a neglected tropical disease which is preventable. Our study noted that the majority of the affected population were immigrants that had been in the US for more than 10 years and came from central America and the Caribbean. With appropriate treatment, most of the symptoms and CNS lesions resolved, with a low mortality. Public health efforts to identify and treat the tapeworm carrier could be improved to allow for public health follow-up of cases. Although not yet considered endemic in Florida, we hope to bring awareness in this state.

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713. Coccidioidal Meningitis Among Children: A Case Series and Single Center Experience In Central California

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Session: P-34. Eukaryotic Diagnostics

Background. Coccidioidal meningitis is a severe form of coccidioidomycosis associated with significant morbidity and mortality. Published literature in the pediatric population is limited, particularly on coccidioidal meningitis. Here we describe a large case series of pediatric coccidioidal meningitis followed at a tertiary care center in an endemic region.

Methods. We performed a retrospective case review of patients ≤21 years old followed at our facility with a diagnosis of coccidioidal meningitis from January 1, 2000, to December 31, 2018.

Results. Overall, 30 patients were identified during the study period. The median age was 10.8 years (IQR: 4.6-15). The majority of patients were previously healthy (93%) and all required hospitalization. Fever (90%), headache (70%), vomiting (53%), and fatigue (57%) were the most common clinical manifestations. More than one-third (40%) had concurrent pulmonary disease. Only 20 patients (67%) had initial Coccidioides complement fixation (CF) titers ≥1:16. The majority had extra-axial lesions, while on CT/MRI, 15 patients (50%) had intraparenchymal lesions. Neurological complications including paresis/paralysis, stroke, neuropathy, seizures, and cognitive delay were observed in 20% of patients. Two-thirds (73%) of patients required shunt placement (70%) and almost half of them (43%) underwent revision. Neurological complications including paresis/paralysis, stroke, neuropathy, seizures, and cognitive delay were observed in 20% of patients. Two-thirds (73%) of patients required fluconazole as the initial drug. However, 37% of those had fluconazole failure, requiring alternative treatment. Due to refractory disease, two patients required a novel triazole, isavuconazole, while adjunctive therapy with steroids and interferon-gamma (IFN-γ) was used in 20% of patients. Most cases (83%) stabilized, 13% experienced relapses and/or progressive disease, and 3% were fatal.

Conclusion. Pediatric coccidioidal meningitis is an uncommon and sometimes devastating complication of disseminated coccidioidomycosis. Many patients present with relatively low CF titers, and communicating hydrocephalus and long-term neurologic complications are common. Fluconazole treatment failures are common, and management remains difficult despite recent advances in therapy. Most patients do well once the disease is stabilized and require lifelong therapy. Newer therapeutic agents are needed.

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714. Invasive Fungal Infection Caused by Curvularia Species in a Patient with Intranasal Drug Use: A Case Report

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Session: P-34. Eukaryotic Diagnostics

Background. Invasive fungal infections (IFIs) are uncommon infections that account for approximately 27,210,000 cases per year in the United States. One form of IFI is chronic invasive fungal sinusitis (CIFS). If untreated, invasion into neighboring structures may cause altered mental status, seizures, strokes, proptosis, and intracranial complications.

Case Report. An afibrile 43-year-old female with a history of polysubstance abuse presented to the ED due to altered mental status, left sided facial droop, right sided hemiparesis, and slurred speech. The patient was somnolent but arousable to stimuli and appeared acutely ill. The patient’s mother reported a history of cocaine abuse, which was confirmed on urine toxicology. A CT head and neck with contrast revealed subacute basal ganglia lacunar infarcts and a left sphenoid opacity with scattered hyperintensities and erosive changes [Figure 2]. One month prior, she had been diagnosed with a left superior pole kidney mass and a left-sided enlarged paraaortic lymph node containing multiple noncaseating granulomas and GMS stains positive for fungal hyphae [Figure 1].

The patient underwent nasal endoscopy with tissue biopsy. Tissue showed necrosis and invasion with fungal hyphae [Figure 1]. The fungal species were identified as Curvularia species. The patient was placed on oral voriconazole. While the infection stabilized, her neurologic deficits did not significantly improve. She was discharged to inpatient rehabilitation.

Figure 1. Coronal and axial view of left upper pole kidney mass with perinephric fat stranding.

Figure 2. Imaging revealing subacute basal ganglia lacunar infarcts and a left sphenoid opacity with scattered hyperintensities and erosive changes.

Figure 3. Laboratory Evidence and Follow up