Methods. This retrospective observational study evaluated BMI and ASCVD risk score changes in vireologically suppressed PLWH who switched from TDF to TAF without switching any other ART regimen components. Adult patients on TDF for ≥1 year with two consecutive HIV viral loads <200 copies/mL in the year prior to a TAF switch were included. Bodyweight, BMI, cholesterol, ASCVD risk score, and other variables were collected for the year prior to and following the switch. The unadjusted distributions of pre- and post-switch values were compared with the Wilcoxon signed-rank test. Repeated-measures generalized estimating equations were constructed to evaluate changes in BMI and ASCVD risk scores associated with TDF to TAF switches. These were adjusted for predictors retained in the model if their P-values were <0.05. ASCVD risk scores were skewed right, so those data were log-transformed prior to modeling.

Results. A total of 110 patients met the criteria and were included for analysis (Table 1). In unadjusted analyses, there were significant increases in weight, BMI, total cholesterol, LDL, HDL, and ASCVD score in the year after switching from TDF to TAF (each P < 0.01, Table 2). Only gender was retained in the adjusted BMI model, which suggested switching from TDF to TAF lead to an increase of 0.45 kg/m² in the expected mean for BMI (95% CI: 0.14, 0.76). Age, gender, race, concomitant medications that can cause weight gain, and time since HIV diagnosis were retained as covariates in the adjusted ASCVD model. This model suggested that switching from TDF to TAF was associated with a 13% increase in the expected mean for ASCVD risk score (95% CI: 4%, 23%).

Conclusion. We observed significant increases in BMI and ASCVD risk in PLWH 1 year following a switch from TDF to TAF without changes in other ART regimen components. The mechanism of these metabolic changes is unclear and requires further study.

Table 1. Descriptive Summary, n = 110

| Variable                  | All (n = 110) | Min Max | P-value |
|---------------------------|---------------|---------|---------|
| Age, mean (SD), min, max  | 50 (11.7)     | 24 77   | <0.01   |
| Gender, n (%)             |               |         |         |
| Male                      | 80 (72.7)     |         |         |
| Female                    | 30 (27.3)     |         |         |
| Race, n (%)               |               |         |         |
| Asian                     | 2 (1.8)       |         |         |
| African American          | 64 (58.2)     |         |         |
| White                     | 38 (34.5)     |         |         |
| Hispanic                  | 6 (5.5)       |         |         |
| Years since HIV diagnosis, median (IQR), min, max | 12.0 (11.0) | 2.0     | 34.0    | 
| Years on ART, median (IQR), min, max | 8.0 (8.0)  | 1.0     | 29.0    |
| Pre-switch CO2 count, median (IQR), min, max | 627.5 (381.0) | 138.0 | 1401.0 |
| Pre-switch BMI category, n (%)                     |         |         |         |
| Underweight               | 4 (3.6)       |         |         |
| Normal weight             | 34 (30.9)     |         |         |
| Overweight                | 31 (28.2)     |         |         |
| Obese                     | 41 (37.3)     |         |         |
| Other ART agent, n (%)    |               |         |         |
| Integrase Inhibitor       | 54 (49.1)     |         |         |
| Protease Inhibitor        | 18 (16.4)     |         |         |
| Non-nucleoside Reverse Transfer Inhibitor | 32 (29.1) |         |         |
| Other                     | 6 (5.4)       |         |         |
| Concomitant medication cause weight gain, n (%) | 34 (30.9) |         |         |
| Concomitant medication cause weight loss, n (%) | 25 (22.6) |         |         |

Table 2. Outcomes Summary, n = 110

| Outcome                        | Mean | SD | Mean Change | p-value |
|--------------------------------|------|----|-------------|---------|
| Weight, mean (SD)              | 185.4 (55.8) | 190.5 (60.5) | 3.0 (9.2) | <0.01 |
| BMI (kg/m²)                    | 28.0 (10.8) | 28.2 (10.0) | 0.5 (14.0) | <0.01 |
| Total cholesterol, median (IQR)| 173.8 (44.0) | 195.0 (42.0) | 12.5 (32.3) | <0.01 |
| LDL, median (IQR)              | 98.6 (40.2) | 112.1 (46.6) | 8.2 (21.0) | <0.01 |
| HDL, median (IQR)              | 51.0 (19.0) | 55.8 (24.0) | 3.0 (20.0) | <0.01 |
| Total/HDL cholesterol ratio, median (IQR) | 3.5 (1.6) | 3.7 (1.1) | 0.1 (0.6) | 0.25 |
| Triglycerides, median (IQR)    | 103.5 (68.0) | 109.5 (93.0) | 4.0 (64.0) | 0.28 |
| Atherosclerotic CVD risk score, median (IQR) | 6.9 (8.1) | 8.1 (10.9) | 0.4 (19.1) | <0.01 |
| Creatinine clearance, median (IQR) | 104.0 (38.0) | 102.5 (42.0) | 1.0 (10.7) | 0.82 |

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182. Efficacy of Pulse-Taper Corticosteroid Adjunctive Therapy for Refractory Non-HIV Cryptococcal Meningoencephalitis

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Background. Cryptococcal meningitis (CM) affects individuals with AIDS, transplant recipients and those previously healthy, with 30–50% mortality in most groups despite anti-fungal treatment. In the previously healthy, a post-infectious inflammatory response syndrome (PIIRS) analogous to cryptococcal IRIS in AIDS patients has recently been described. PIIRS is defined as a deterioration in mental status and/or audio-visual capacity despite optimal treatment for CM and negative CSF cultures. Pathophysiology is related to excessive T-cell responses to lysed fungal cells and is associated with a transient increase in pro-inflammatory cytokines. We aimed to determine if adjunctive pulse corticosteroids could treat neurologic manifestations of PIIRS in a small cohort of patients.

Methods. Three patients with PIIRS were treated with adjunctive pulse corticosteroids (300 mg methylprednisolone i.v. for 10 days) and the resolution of post-infectious CM manifestations was monitored weekly for at least 8 weeks following treatment.

Results. All 3 patients showed a clinical and radiographic response to adjunctive pulse corticosteroids. All 3 patients showed improvement in mental status, decreased post-infectious symptoms, and normalization of CSF findings following corticosteroid treatment.

Discussion. Adjunctive corticosteroid therapy for refractory CM and PIIRS is safe and effective and may be considered for patients with PIIRS who do not respond to anti-fungal treatment alone.
1 mg/kg/day, tapered based on clinical and radiological response plus oral furosemide. Montreal cognitive assessments (MOCA) scores at baseline and 1 month were the primary endpoints and CSF parameters including WBC, glucose, HLA DR4+ CD4 and CD8 cells and cytokines were also determined at baseline and after 1 week of somnolence. Paired nonparametric t-tests were conducted using GraphPad Prism 7.0.

Results. All patients demonstrated clinical improvement despite 7 being initiated at the point of stupor and 6 having received ventriculoperiiontal shunts without clinical response. MOCA scores at 1 month showed significant improvement (P = 0.002), accompanied by significant improvements in CSF: serum glucose ratios, CSF WBC, protein and HLA DR4 positive T cells 1 week after receiving corticosteroids (P < 0.02). Patients with hearing or visual deficits exhibited clinical improvement. CSF cultures remained negative.

Conclusion. Our findings in this small observational cohort of refractory non-HIV CM with PIERS demonstrated significant clinical benefit of high dose adjunctive pulse-taper corticosteroids. The study also demonstrates the utility of physiology-based immunophenotyping to guide therapy in neuroinflammation associated with infectious diseases.

Disclosures. All Authors: No reported Disclosures.

1821. Evaluation of Cerebrospinal Fluid White Blood Cell Count Criteria for Use of the BioFire FilmArray Meningitis/Encephalitis Panel in Immunocompetent Patients

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Background. In 2016, our academic medical center implemented the BioFire FilmArray Meningitis/Encephalitis Panel (MEP), which detects 14 viral, bacterial, and fungal pathogens. Institutional guidelines recommended the test be used in immunocompromised patients age ≥2 years only if the cerebrospinal fluid (CSF) white blood cell (WBC) count was >10 cells/mm3.

Methods. We reviewed all MEP performed at our institution over 2 years (January 1, 2017 to December 31, 2018). We collected CSF WBC count, protein, and glucose; MEP results; CSF culture results; and demographics. We excluded children age <2 years, immunocompromised patients, those without a CSF WBC count, and duplicate tests during the same illness.

Results. Of 453 patients, 311 met inclusion criteria. The median age was 51, 51% male. Median CSF indices: WBC/mm3 = 4, protein = 57 mg/dL, glucose = 66 mg/dL. MEP positivity rate = 12% (37/311); viruses (29/37), bacteria (7/37), and fungi (1/37). Positive bacterial/fungal MEP results compared with CSF culture are summarized in Table 1. No clinically significant discordant negative MEP results occurred compared with CSF culture, cryptococcal antigen, or other viral PCR testing. Of the 311 patients, 184 (59%) had ≤10 CSF WBC/mm3. Of these, 4, had positive MEP results: 1 enterovirus, 1 human herpes virus 6 (HHV-6) and 2 varicella zoster virus (VZV). The HHV-6 was judged clinically insignificant. The 2 VZV cases had concomitant shingles and were already on acyclovir. No clinically significant MEP results occurred in 110/311 (35%) patients with ≤2 CSF WBC/mm3.

Conclusion. In immunocompromised patients, age ≥2 with ≤10 CSF WBC/mm3 on lumbar puncture, positive MEP results were rare and the clinical significance of the 4 positives was debatable. A hard-stop restriction in this setting could have reduced overall use by up to 59% and resulted in significant cost savings. Lower CSF WBC/mm3 cut-offs could be considered and still improve MEP utilization.

Bacterial and Fungal MEP results compared to culture

| MEP result | # MEP positive | Positive Culture |
|------------|----------------|-----------------|
| S. pneumoniae | 4 | 1/4 |
| H. influenzae | 1 | 1/1 |
| S. agalactiae | 1 | 0/1 |
| N. meningitidis | 1 | 0/1 |
| C. neoformans/gatti | 1 | 1/1 |

Disclosures. All Authors: No reported Disclosures.