Conclusion. Delay in ART initiation as well as risk factors for and presence of CVD were associated with ED in HIV-infected persons. Mitigating risk factors and optimizing comorbidities is important to improve sexual health and reduce ED in HIV-infected persons.

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603. Multi-morbidity and Impaired CD4/CD8 Ratios in Older Adults with Well-Controlled HIV

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Background. Older age has been associated with impaired CD4 recovery and a low CD4/CD8 ratio is an independent predictor of non-AIDS morbidity/mortality. In this study we describe the overall comorbidity burden and assess factors associated with CD4/CD8 <1 among HIV+ older adults 60+ years at CORE Center, Cook County Health and Hospital System; a safety-net health system.

Methods. We evaluated demographic, clinical, and lab variables in all HIV+ >60 years who had at least 1 primary care visit from January 1, 2016 to May 31, 2017 at the RMR CORE center. Since HIV viremia is associated with CD4 recovery, analysis on CD4/CD8 ratios was restricted to the patients with viral suppression.

Results. There were 809 patients with a median age of 63 years (range: 60–89 years). Seventy-five percent were male, 74% black, 17% Hispanic and 8% white. Mean CD4 was 538 (±307) cells/mm3; 107 (13%) had CD4 < 200 and 675 (84%) had undetectable HIVRNA (<50 copies/mL). 38% were HIV+ with comorbidities were hypertension 62%, COPD 23%, diabetes 22%, depression 17%, osteoarthritis 15% neuropathy, chronic kidney disease (CKD) and coronary artery disease (CAD) 13 each. 50% had 1-2 comorbidities and 31% had >3 comorbidities. Of the 675 patients with suppressed viremia, 470 patient (70%) had CD4/CD8 <1 and 245 (36%) had CD4/CD8 >0.5. Compared with patients with CD4/CD8 >1, patient with CD4/CD8 <1 had lower CD4 counts (451 vs. 739 cells/mm3; P < 0.001), were less likely to have CD4 > 500 (35% vs. 75%; P < 0.001), more likely to have CD4 <200 (13% vs. 1%; P < 0.001), be male (82% vs. 60%; P < 0.001), HCValue (39% vs. 32%; P<0.05). They also tended to have more CAD 7% vs. 4% (P=0.1) and more CKD 15% vs. 11% (P = 0.2).

Conclusion. There was a high rate of multi-morbidity among older, predominately ethnic minorities HIV-infected adults with 56% having >2 comorbidities. In the setting of viral suppression, 70% still had a CD4/CD8 ratio <1 which likely reflects the effect of older age, and lower CD4 nadir. This impaired immune restoration and co-morbidity burden portend a higher risk of non-AIDS morbidity and mortality in these patients and highlights the need for comprehensive care in HIV clinic settings.

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604. Impact of Substance and Alcohol Abuse on Smoking-Related Behaviors When Using a Smoking Cessation Decisional Algorithm Among People Living with HIV (PLWH)

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Background. Compared with the general population, PLWH have higher rates of tobacco use. We performed a prospective single-arm pilot study of the real-world feasibility of integrating an ambulatory smoking cessation decisional algorithm in our HIV clinic. We hypothesized that patients with drug and alcohol abuse would have a smaller change in smoking related behaviors.

Methods. Participants were PLWH attending our clinic and smoking at least 5 cigarettes/day regardless of their motivation to quit (N = 60). Each participant had an initial visit and two phone visits (+1 and +3 months). Participants completed surveys via computer during the first visit and by phone in the follow-ups. Additional clinical data were collected via chart review.

Results. Participants had a mean age of 48, were mostly African-American (72%) and male (67%) with well-controlled HIV (mean CD4 622, undetectable viral load in 79%). The mean AUDIT score to assess for alcohol abuse did not change over the three time points (7.1±2.7/2.6, median 4.5/5). A score of 8 or higher indicates harmful alcohol consumption and 23% of patients met the criteria. Lifetime self-reported treatment for alcohol abuse diagnosis, baseline was 16 cigarettes/day and at 3 months, 10 cigarettes/day of 12 cigarettes/day and 6 cigarettes/day at 3 months (reduction 6). For those with an alcohol abuse diagnosis, baseline was 16 cigarettes/day and at 3 months, 10 cigarettes/day (reduction 6). The change over time was not significantly different between the groups.

Conclusion. People living with HIV who smoke are a complex group of patients who commonly have concurrent or historical substance and alcohol abuse. A substance and alcohol abuse diagnosis did not impact the decrease in tobacco use seen with implementation of a decisional algorithm.

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605. Loneliness Among Older Adults Living with HIV: A Study and Online Community

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Background. The population of people living with HIV (PLHIV) is aging. A new registry and online community, called Aging with Dignity, Health, Optimism and Community (ADHOIC), has been launched to investigate how HIV impacts the lives of older PLHIV.

Methods. A cross-sectional analysis of ADHOIC was performed on 208 PLHIV 50+ years of age. One hypothesis was that increasing age would be associated with greater loneliness. Loneliness was assessed using the UCLA Loneliness Scale (ULS-3). A score ≥26 was classified as lonely. The impact of aging on loneliness was analyzed by ANOVA and multiple linear regression.

Results. ULS-3 scores ranged from 3 to 9 and 48.6% of subjects were classified as lonely. Significant differences were found between the 50–59, 60–65 and 65+ age groups, with older age associated with decreased loneliness (P < 0.018) (Table 1). In the multiple linear regression model, these observations persisted even after controlling for gender, sexual orientation, race/ethnicity, relationship status, education, income, and number of comorbidities (Table 2). Decreases in loneliness were associated with female gender, being in a relationship, higher income, and fewer comorbidities (P < 0.05).

Conclusion. Among PLHIV over 50, loneliness is less severe in older age groups. Additional investigation is needed to better understand potential causes and to find ways to remediate loneliness among older PLHIV.

Table 1: Comparison of ULS-3 Scores by Age

| Age      | N   | Mean ± SD | P-value |
|----------|-----|-----------|---------|
| 50–59    | 113 | 54.3 ± 2.1|         |
| 60–65    | 40  | 19.2 ± 2.0| <0.001  |
| 65+      | 35  | 16.8 ± 2.3|         |

Table 2: Multiple Linear Regression of ULS-3 Scores

| Education | n  | %   | Coef. | P-value |
|-----------|----|-----|------|---------|
| Less than college graduate | 86  | 41.4 |        |         |
| College graduate (4 years) | 62  | 39.4 | 0.23  | 0.474   |
| Graduate school graduate | 40  | 19.2 | -0.02 | 0.963   |
| Income >$50,000          | 84  | 44.9 |        |         |
| Income ≥$50,000          | 103 | 55.1 | -0.60 | 0.049   |

606. Risk Factors for Congenital Infection in the United States: Analysis of the Kids’ Inpatient Database (KID)

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Background. Congenital infections cause significant morbidity globally. In the United States, population studies have indicated that congenital infections disproportionately affect minorities and the economically disadvantaged. Through their chronic and disabling effects these infections perpetuate generational poverty among these groups. The objectives of this study were to (i) provide a national prevalence estimate of congenital infections in children; (ii) determine the best methods for diagnosis; (iii) compare risk of congenital infection between white and non-White children; and (iii) investigate the relationship between socioeconomic status and risk of congenital infection in the United States.

Methods. The 2012 HCUP Kids Inpatient Database was used to identify discharges of children 0–2 years with an ICD-9 diagnosis code for congenital CMV (771.1), congenital syphilis (090.9–0), or congenital infection other (771.2). Univariate and multivariate logistic regression was used to estimate prevalence rates and potential risk factors for these infections.

Results. Prevalence of any congenital infection in children age 0–2 years was 0.048%. Risk factor analyses found that African-American children were 1.85 times more likely to have any congenital infection compared with Caucasians (95% CI: 1.56–2.20), 1.49 times more likely to have congenital CMV (95% CI: 1.10–2.02), and 5.97 times more likely to develop congenital syphilis (95% CI: 1.43–8.17). Children with private insurance are less likely than those with Medicaid to have any congenital infection (RR = 0.54, 95% CI: 0.43–0.66), congenital CMV (RR = 0.49, 95% CI: 0.37–0.65), or congenital syphilis (RR = 0.29, 95% CI: 0.19–0.43). Finally, children from higher income households are 1.9 times more likely to have lower income to have any congenital infection (RR = 0.87, 95% CI: 0.80–0.94).

Conclusion. Risk for congenital infections in children 0–2 years in the United States is substantially higher for non-Whites, those with Medicaid insurance, and those in lower income households. Supporting previous literature suggesting that infections disproportionately affect socially and economically disadvantaged groups. Further research is needed to define optimal cost-effective screening and prevention strategies.

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609. Acute Kidney Injury During Treatment with Intravenous Acyclovir (AKITA) for Suspected Neonatal Herpes Simplex Virus Infection

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Session: 63. Maternal-Child Infections
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Background. Intravenous (IV) acyclovir is often administered empirically in neonates with suspected herpes simplex virus (HSV) disease. Acute kidney injury (AKI) can occur within 1–2 days after starting IV acyclovir due to crystal nephropathy, but the epidemiology of acyclovir-associated AKI in infants is not well described. Our objective was to detail the incidence and timing of AKI among acyclovir-exposed infants.

Methods. We identified all hospitalized infants age <60 days treated with ≥48 h of IV acyclovir for suspected or confirmed neonatal HSV disease from January 2011 to December 2015 at four US hospitals. Subjects were included if they had both a baseline (lowest value obtained before initiation of acyclovir) and follow-up serum creatinine (SCr) obtained after at least one dose of acyclovir (Day 0 to 48 hours after completion recorded). Infants with congenital kidney disease were excluded. We defined AKI using Kidney Disease: Improving Global Outcomes SCr criteria: ≥25% increase from baseline, or ≥0.3 mg/dL change within any 48-hour period.

Results. We identified 3,374 infants who received IV acyclovir, 1,535 of whom (45.5%) had SCr as defined for inclusion in our analyses (range 52–898 infants per hospital); 50% were white, 44% were female, and the median gestational age was 37 weeks (IQR 35 – 39). On acyclovir Day 0, the median age was 6 days (IQR 2–18), and 50.0% (n = 768) were admitted to the NICU. The median acyclovir dose was 59.5 mg/kg (IQR 50.8–61.2) and the median duration of IV acyclovir treatment was 3 days (IQR: 3–6). Thirty-two infants had confirmed HSV disease (10 GNS, 14 disseminated, and eight skin, eye, and mucous membrane disease). In all, 96 infants (6.3%) had AKI detected after acyclovir initiation including 62 (64.5%) on Day 0, 20 (20.8%) on Day 1 or 2, and 14 (14.6%) on/after Day 3. Of those with AKI on Day 1 or later, 41% (n = 14) had Stage 2 AKI (doubling of SCr or more from baseline). Seven of 32 (21.8%) infants with confirmed HSV had AKI including 4 on Day 0, 2 on Days 1–2, and 1 on Day 12.

Conclusion. The incidence of AKI among infants treated with IV acyclovir in our study was low. Most AKI was detected soon after acyclovir initiation, potentially owing to more severe illness at the start of treatment and/or drug toxicity, but AKI also developed later. SCr monitoring should be considered throughout acyclovir treatment in infants.

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