

**427. Putting the ‘Eye’ in Spirochetes**

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**Session:** 50. Sexually Transmitted Infections

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**Background.** Ocular syphilis is an infrequent presentation of *Treponema pallidum* infection. It is often seen in association with neurosyphilis but can occur in isolation as well. Here we describe a case series of 10 patients with ocular syphilis seen at our institution.

**Methods.** Patients with a diagnosis of ocular syphilis at the three sites of Mayo Clinic were identified from June 2006 to February 2019. Patient’s baseline characteristics, clinical presentation, diagnostic testing, and treatment were abstracted from Electronic Medical Records.

**Results.** We identified 10 patients (17 eyes) during the study period, half being diagnosed in the last 5 years. The median age was 51 years (IQR 21–66), and the majority were males (7/10). Characteristics of the patients are outlined in Table 1. Common presenting symptoms included vision loss (8/10), photophobia (4/10), and irritation (5/10). Seven of 10 patients had bilateral involvement. Of the 17 eyes, 59% had pan-uveitis and 82% had disc edema (Table 2). Rapid Plasma Reagin (RPR) was positive in 9 patients and median serum RPR was 1:128 (IQR 1:2-1:1024). One patient was diagnosed with a positive TP-PA, and characteristic ocular findings. One patient had positive 16S Ribosomal RNA Gene PCR/Sanger Sequencing on vitreous humor specimen for *Treponema species*. The majority of patients had isolated ocular symptoms at presentation; two patients also had an associated skin rash. All patients underwent a lumbar puncture (LP). Half had pleocytosis (TNC > 5) and elevated protein elevated (mean 63.6 mg/dL), although not significantly high. 3/10 patients had VDRL positive in the CSF. Protein levels were much higher in those with positive VDRL. Each patient was treated with intravenous (IV) penicillin for at least 2 weeks. Nine patients received ocular steroids as well. At last available follow-up, 8 had complete and 1 had partial resolution. One had worsened eye findings with eventual scarring.

**Conclusion.** Our findings are congruent with increasing incidence of ocular syphilis nationwide. Bilateral eye involvement and pan-uveitis were the most common ocular findings. Although only 3 patients had a positive VDRL in the CSF, pleocytosis and elevated protein were found in a large number of patients. Majority of the patients had clinical resolution with appropriate treatment.

**Table 1. Baseline patient characteristics**

Baseline Characteristics	N=10
Median age, years (IQR)	55 years (IQR 21-66)
Gender	
Men	7
Women	3
Risk factors	
Unprotected Sex	8
MSM	5
Substance abuse	1
Use of PrEP	0
Other associated medical conditions	
HIV	1
Hepatitis C	1
Prior history of STI	4
Ocular Involvement	
Unilateral	3
Bilateral	7
Extra-ocular symptoms	
Skin Rash	2
CNS	2

**Table 2. Ocular Exam Findings at Presentation**

Ocular Findings	N=17
Ophthalmologic Exam	3
Anterior Uveitis	6
Pan Uveitis	2
Intermediate Uveitis	1
Papillitis	1
Optic neuritis	
Optic Disc Edema	14
Decreased Visual Acuity	7 4 (unreported) 6 (normal)

**Disclosures.** All authors: No reported disclosures.

**428. Lower Incidence Rates of *Neisseria gonorrhoeae* and *Chlamydia trachomatis* in Pre-Exposure Prophylaxis Patients Over Fifty Years Old Than in Younger Quartiles.**

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**Background.** While Pre-Exposure Prophylaxis (PrEP) has been shown to be effective in preventing the acquisition of HIV, the cost of care is considerable. Public health efforts should be directed to those at highest risk to minimize the cost of a quality-adjusted life-year (QALY).

**Given that sexually transmitted illnesses (STIs) increase the risk of acquiring HIV from 5–8 fold, their incidence rates can serve to define populations at highest risk for HIV within the community of men who have sex with men (MSM).**

**Methods.** A retrospective cohort of PrEP patients with STI screening visits in two clinics in Dallas, Texas from January 2016 through April 2019 were reviewed. Three-site genital and extra-genital testing was routinely performed. Categorical variables were compared using Chi-Square. A binomial regression model was used to evaluate the odds of STI acquisition.

**Results.** 201 PrEP patients had 999 screening visits. 17 were in the first quartile, ages (18–24) 35.3% were Black, 70.6% MSM; 105 were in the second quartile, ages (25–37) 23.8% Black, 58.1% MSM; 56 third quartile, ages (38–49) 17.9% Black, 62.5% MSM; 23 patients in the fourth quartile, age ≥50, 8.7% were Black, 47.8% MSM. The younger age group, first quartile contributed 16 person-years (py); the second quartile, 102 py; third quartile, 48 py; fourth quartile, ≥50, 25 py. The incidence rates for *Neisseria gonorrhoeae* (GC) or *Chlamydia trachomatis* (CT) from any site were higher in the first quartile, 166/100 py, CI 150–174; second quartile, 92/100 py, CI 85–96; third quartile, 62/100 py, CI 48–75 than in those in the fourth quartile, ≥50 years old, 44/100 py, CI 27–63. The incidence of any rectal GC or CT in the first quartile, 86/100 py, CI 63–98; second quartile, 53/100 py, CI 43–62; third quartile, 29/100 py, CI 18–43 and those in the fourth quartile, ≥50, 32/100 py, CI 17–52. In a binomial regression model, the odds of acquiring any GC or CT for a PrEP patient ≥50 revealed an adjusted OR of 0.40, CI, 0.20–0.79 (adjusted for race and sexual orientation) P = 0.009 when compared with patients less than 50.

**Conclusion.** PrEP patients fifty and older have the lowest odds of acquiring STIs. Younger age groups with higher incidences of STIs may represent those with more episodes of condomless sex, at higher risk for HIV.

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**429. Ocular gonorrhea infections in New York City, 2006–2017**

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**Background.** Ocular gonorrhea infections (OGI) have been rarely reported in United States adults. Unlike other bacterial eye infections which may be treated with topical antibiotics, OGI is typically characterized by purulent conjunctivitis with profuse exudate and requires treatment with systemic antibiotics. Genital gonorrhea infections are increasing nationally and in New York City (NYC). New York State mandates prophylactic antibiotic treatment of newborns to prevent purulent conjunctivitis. We describe the number and characteristics of OGI case-patients diagnosed among NYC residents over a 12-year period.