



Prevalence of Ocular Syphilis at University of Pittsburgh Medical Center Sites in Greater Pittsburgh Region

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Background

Syphilis

- Can present in three phases of the disease caused by *Treponema Pallidum*
- Primary Syphilis: Presents with painless genital chancre
- Secondary Syphilis: Characterized by reddish brown papular rash throughout the body; individual is highly contagious during this phase
- Tertiary Syphilis: Patient can have gummas, cardiovascular syphilis and neurosyphilis

Ocular Syphilis

- Ocular Syphilis: Rare but serious manifestation of infectious disease, Syphilis, caused by *Treponema Pallidum*
- Ocular presentation in 0.6% of syphilis cases
- Can be transmitted sexually as well as congenitally
- Ophthalmic presentation can be seen affecting adnexa, anterior segment, uvea, retina, optic tract and even CNS

Treatment

- Usually includes single dose of IV penicillin G

Objective

- We investigated if there had been a statistically significant increase in the number of cases of ocular syphilis per year at UPMC sites as well as possible significant increase in general syphilis diagnoses at UPMC sites.

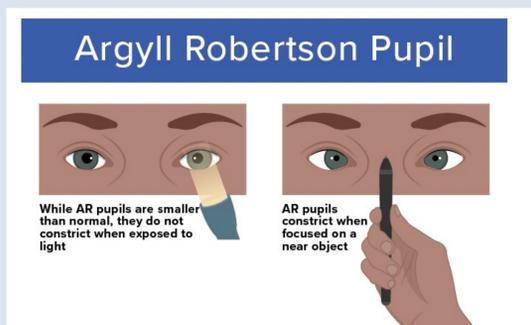


Figure 1: One manifestation of ocular syphilis is Argyll Robertson Pupils. They are pupils that do not constrict to direct light exposure, but do constrict on convergence

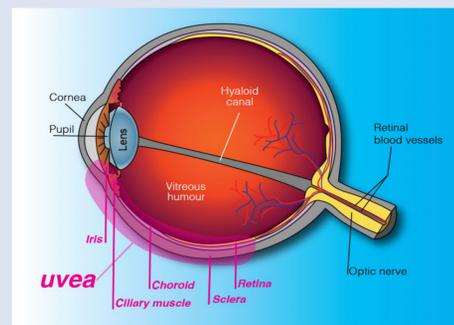


Figure 2: Uveitis, inflammation of the uvea, is another classic presentation of ocular syphilis and can potentially be very painful.

Methods

Study Design

- This was a retrospective study encompassing patients seen at UPMC and associated outpatient clinics over 2015-2021

Inclusion Criteria

- Patients at least 18 years of age or older
- Newly diagnosed acquired infection
- Was evaluated by an Ophthalmology provider at UPMC or an outside clinic with records available

Primary Outcome

- Number of cases of ocular syphilis per year as compared to the mean number of ocular syphilis cases per year

Results

Results and Statistical Analysis

- 17 patients (34 eyes) were identified with ocular syphilis over the allotted time span.
- 1 patient was excluded due to lack of ophthalmic records; remaining 16 patients (32 eyes) were used included in study.
- Cases of ocular syphilis per year had mean of 2.29 cases/year and standard deviation of 2.05. 2021 showed 6 cases (Z-score 1.81 [p=0.035]).
- Cases of syphilis per year had mean of 253 cases/year; 2021 showed 316 cases (6 of which had ophthalmic findings: 1.9% Z-score 1.41 [p=0.078]).
- All patients were treated with IV penicillin G
- 7/8 patients recovered vision to 20/30 or better while 1/8 patients had vision remain stable at 20/40.

Conclusions

Main Takeaway

- A statistically significant increase in the number of cases of ocular syphilis is seen at UPMC sites in 2021.

Why is this Important?

- Ocular syphilis, although very rare, is a very treatable disease and has a good visual prognosis if identified and treated appropriately.
- It is important to identify symptoms of ocular syphilis and diagnose the disease as quickly as possible so that it can be treated promptly and appropriately

Future Directions and Limitations

Future Directions

- Look into specific breakdown of symptoms in presentation of ocular syphilis
- Begin to quantify most common and least common ocular symptoms in presentation of ocular syphilis

Limitations

- Small sample size due to rarity of ocular syphilis in general population

References and Acknowledgements

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