Seeing Through Ocular Syphilis. A Case Series of Ocular Syphilis in Northern Ireland.

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Introduction

- Syphilis is a disease that has been round for many centuries but is certainly not a disease of the past[1].
- The prevalence of syphilis in the UK is continuing to rise with a 125% increase in cases over a 5 year period from 2013-2018 with ongoing upward trends in more recent years[2].
- Syphilis infection predominates in men who have sex with men (MSM), but heterosexual spread is increasing[2].
- Syphilis infection, caused by the spirochete, Treponema Pallidum, can affect many body systems & can therefore present to multiple different specialties before the diagnosis is made[3].
- Ocular involvement can occur at any stage of syphilis[4].
- This case series aims to identify and describe various presentations of ocular syphilis to increase awareness among ophthalmologists.

Methods

- A Northern Ireland wide trawl of patients presenting to an ophthalmology department with ocular syphilis.
- Patients were identified from a database kept by the Belfast based regional uveitis service from 2015 – 2024 as well as reported cases from the Western Health and Social care trust ophthalmology team.
- Demographics and case information was obtained from electronic patient records, paper records and direct communication with the genitourinary medicine (GUM) department.

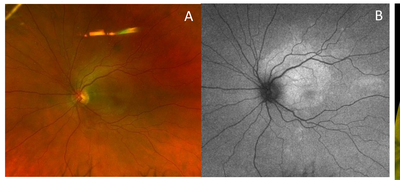


Image 1. *Left posterior placoid Chorioretinitis. A – Fundal image, B – Fundus autofluorescence*

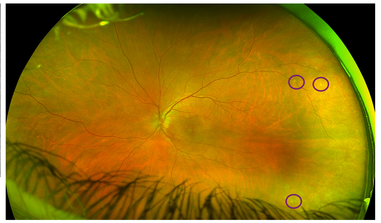


Image 2. *Left punctate inner retinitis seen in the peripheral retina*

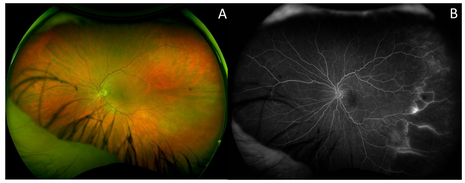
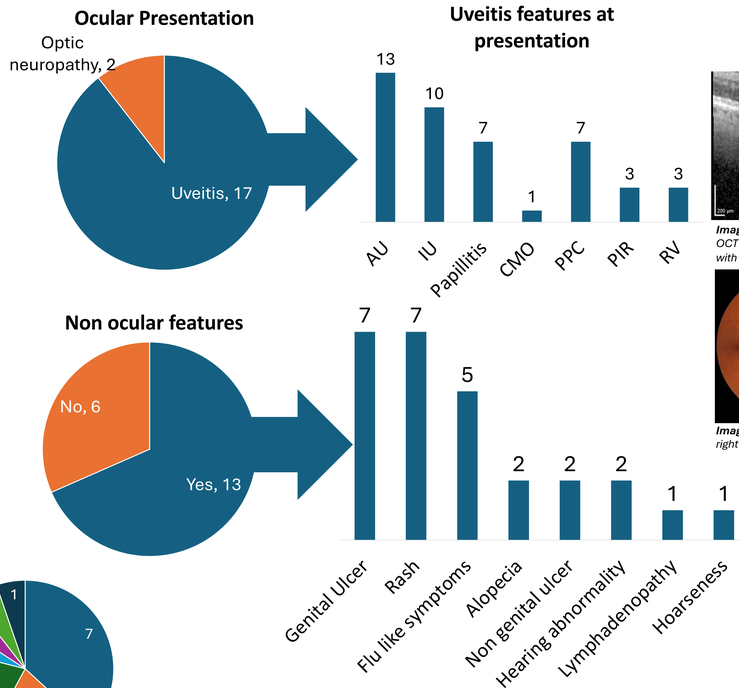


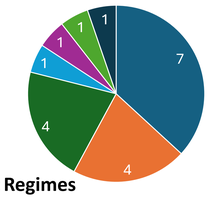
Image 3. *Left Ischaemic retinal vasculitis*
A – Fundal Image showing pallor of temporal retina with blot haemorrhages
B – Fundus fluorescein angiogram showing ischaemic temporal retina with vascular leakage and telangiectasia

Results

- **Nineteen** patients were identified, 14 (74%) of which were in the past 4 years .
- Sixteen patients (84%) were male & 3 patients (16%) were female.
- Of the male patients, 6 patients (37.5%) were **MSM**.
- Two patients (11%) were also HIV positive
- Age at presentation ranged from 23 to 72 with **an average age of 51**.
- Seventeen patients (89%) presented to ophthalmology first.
- Six patients (32%) presented with ocular symptoms only and of those presenting with non-ocular symptoms, only 46% of them had a genital lesion.
- Thirteen patients (68%) had **bilateral** ocular disease.
- The most common type of ocular presentation was **uveitis:** 9 patients had panuveitis, 3 had anterior uveitis alone, 2 had posterior uveitis alone & 1 anterior & intermediate uveitis, 2 had intermediate and posterior uveitis.
- In six patients an alternative diagnosis was made before syphilis was considered which included papilloedema, CRVO, CRAO, BRAO, recurrent anterior uveitis and uveitis associated with psoriatic arthritis.
- Systemic treatment regimens varied depending on inpatient bed availability, outpatient treatment facilities, patient reliability and patient allergy. All patients received oral steroid.



AU – anterior uveitis, IU – intermediate uveitis, CMO – cystoid macular oedema, PPC – posterior placoid chorioretinitis, PIR – punctate inner retinopathy, RV – retinal vasculitis



- IV Benzylpenicillin x6/day for 2 weeks
- IM procaine penicillin OD + PO probenecid QID for 14 days
- PO Doxycylcine BD for 4 weeks
- PO Doxycycline BD 4 weeks + IM benzylpenicillin x1 Stat
- IV Benzylpenicillin x6/day 11 days + PO Doxycycline BD 2 weeks
- IV ceftriaxone OD 2 weeks + IM benpen x1 stat
- IM Benzathine penicillin OD 3 weeks

Systemic Treatment Regimes

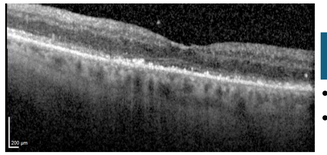


Image 4. *Left Posterior Placoid Chorioretinitis – typical OCT findings showing hyper-reflective nodularity of RPE with disruption of overlying ellipsoid zone.*

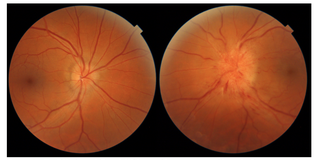


Image 5. *Bilateral Syphilitic optic neuropathy , left worse than right*

Discussion

- Syphilis is one of the great imitators in ophthalmology as it can masquerade as many different eye conditions.
- With 75% of our cases occurring in the past 4 years, this reflects the dramatic increase in syphilis diagnosis in recent years with the UK reporting its highest numbers of syphilis diagnoses in 2022 since 1948[5].
- Reflecting the literature, infection in males predominated (84% vs 76-93%)[6], Although our rates in MSM and rates of HIV co-infection were lower than the literature (32% vs 75% and 11% vs 40%)[2].
- Uveitis is the most common presentation of ocular syphilis[6], and this is reflected in our population along with the predilection for panuveitis (47% vs 41.3-48% [1,7]).
- Although 68% of our population had non ocular features (similar to the literature reporting 40-69% [7]) 92% of these patients presented to ophthalmology first, reinforcing the importance of awareness of ocular syphilis among ophthalmologists.
- Treatment in this population varied but the 3 most common treatment regimens (in 79% of patients) reflected the recommended regimens in the BASHH & CDC guidelines[8,9].

Conclusion

- Syphilis infection is on the rise and the ophthalmology department may be where it first presents.
- Ophthalmologists need to be vigilant for ocular signs of syphilis and keep an awareness that it may masquerade as other ophthalmic conditions, especially uveitis.
- An established relationship with the GUM team is vital to aid in patient management.

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