A review of the clinical features and visual outcomes of patients with ocular toxoplasmosis at a tertiary eye hospital in the West Midlands

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1. Introduction

- Ocular Toxoplasmosis (OT), the ocular manifestations of infection by parasite *Toxoplasma gondii*, is the leading cause of infectious posterior uveitis worldwide.[1]
- Diagnosis of OT is mainly based on classical clinical presentations of focal necrotising retinochoroiditis adjacent to a pigmented chorioretinal scar.[2]
- However, there are a number of atypical presentations delaying diagnosis and ongoing debate regarding how best to diagnose and treat OT.[3]
- OT has high recurrence rates of 40-79% and a quarter of patients develop legal blindness.[4,5]
- Data on clinical features, treatment and prognosis of OT in the UK are limited.

2. Aim

To determine the clinical features, diagnosis, visual outcomes and recurrence rates of ocular toxoplasmosis in the West Midlands, UK.

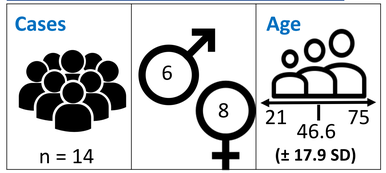
3. Methods

- The electronic records of 14 patients presenting to Birmingham Midland Eye Centre with OT between August 2018 and June 2021 were retrospectively reviewed.
- Data on patients' baseline characteristics, clinical picture, laboratory findings, imaging results, treatment regimens, visual outcomes, complications and recurrence rates were collected on an excel spreadsheet.
- Summary statistics were calculated and presented to show the mean and standard deviation (SD) or count and percentage.

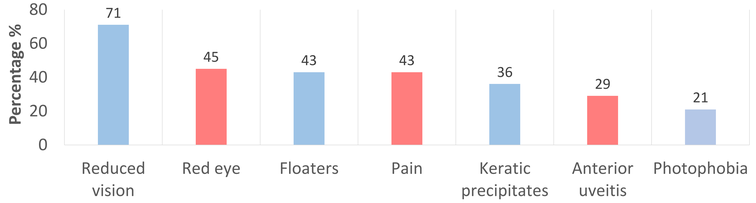
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4. Results

Patient characteristics



Presenting Features



100% Patients presented with unilateral OT

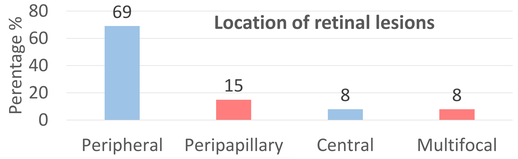
41.8 ± 48.2 days

Presentation **Diagnosis**

Mean time in days ± SD from presentation to diagnosis

Investigations and Diagnosis

- All patients (100%) received retinal imaging showing posterior uveitis and 11 patients (79%) received optical coherence tomography.
- 4 (29%) were diagnosed via typical clinical findings by fundoscopic examination at presentation, whereas the others required further tests.



- 10 (71%) underwent toxoplasma serology testing.
- 100% patients were positive for toxoplasma IgG.
- 3 (30%) patients were also IgM positive suggesting recently acquired infection.
- All 3 Aqueous humour PCR amplifications were negative for *T. gondii*

Diagnostic test	N (%)
Serologic testing	10 (71%)
IgG-positive	10 (100%)
IgM-positive	3 (30%)
Anterior chamber paracentesis	3 (21%)
Toxo 16S and 18S-positive	0 (0%)

Outcomes

- 10 (71%) patients experienced a complication
- 6 (45%) patients had worst visual acuity post-treatment

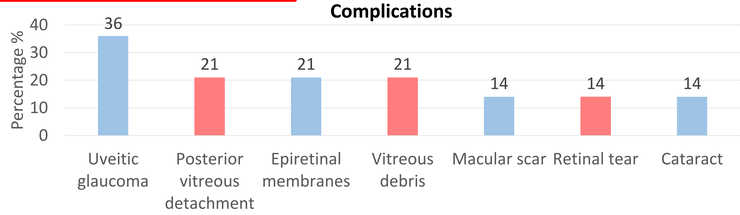
103 ± 85.9 days

Presentation **Resolution**

Mean time in days ± SD from presentation to resolution of inflammation

Treatment	N (%)
Antimicrobial therapy	
Co-trimoxazole 960mg BD	9 (64%)
Oral prednisolone	9 (64%)
Topical IOP-lowering therapy	6 (43%)
Topical steroid	11(79%)
Topical cycloplegic	5 (36%)
No treatment (spontaneous resolution)	2 (14%)

Complications



- In the 7 patients who were followed-up for at least a year, 100% experienced a relapse.
- One patient became legally blind following multiple relapses
- After prescription of prophylactic co-trimoxazole, none experienced a recurrence.

5. Conclusions

- OT typically presents unliterally with reduced vision, red eye, floaters, pain, keratic precipitates and photophobia.
- Given its devastating potential to damage vision in majority young, working adults, clinicians should consider OT as a cause for both anterior and posterior uveitis.
- Serology should be used to help confirm and date the infection.
- The prophylactic use of co-trimoxazole should be considered for introduction into regular clinical practice to help reduce high recurrence rates of OT

6. References

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2.Butler NJ., et al., Clin Exp Ophthalmol, 2013.
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