

# A Case of Adult Malarial Retinopathy

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## Introduction

Cerebral involvement of *Plasmodium Falciparum* infection signifies a more severe progression of malaria; thus, it becomes important to be able to diagnose it early for intervention and treatment. Malarial retinopathy occurs when the retinal vasculature is involved and is considered a surrogate finding for cerebral involvement. Thus, fundoscopic examination serves as a useful staging tool among patients with malaria.

## Fundus Photography

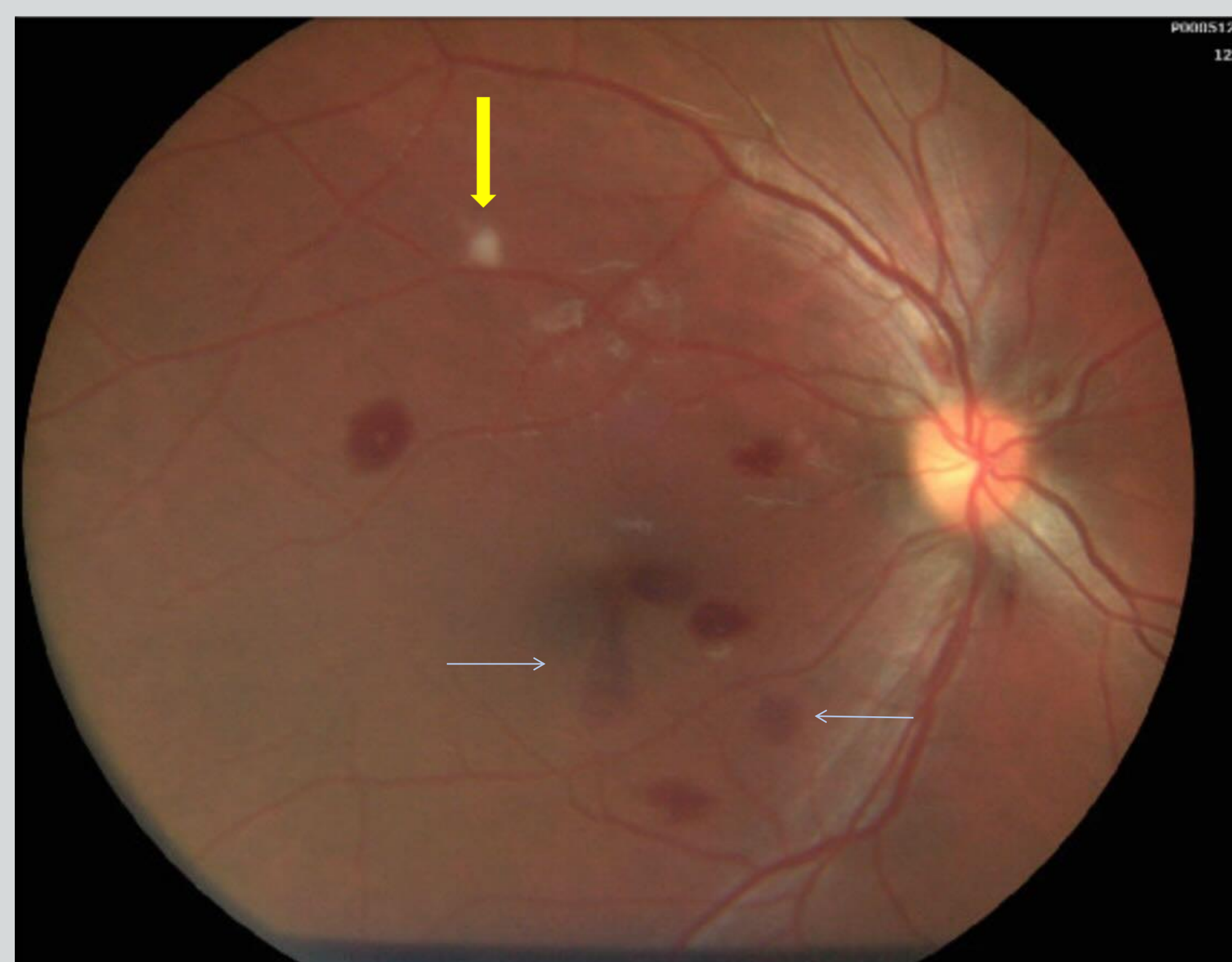


Figure 1. Right eye showing peripapillary intraretinal hemorrhages, superior cotton wool spot (yellow area), multiple Roth spot hemorrhages and 2 subretinal hemorrhages (blue arrows).

## Discussion

- Malarial retinopathy has been well reported in children in malaria-endemic areas, reported occurrences in adults have been rare.
- Sequestered parasitized red blood cells in cerebral neurovasculature is the underlying pathophysiological feature of *P. Falciparum* allowing it to be clinically observed in the retina.<sup>2</sup>
- Presence of malarial retinopathy confirms a diagnosis of severe malaria and is highly specific for cerebral malaria.<sup>1,3</sup>
- Features of malarial retinopathy include retinal whitening, retinal vasculature changes and multilayered retinal hemorrhages.
- A peculiar finding of retinal vascular change is peripheral perivascular retinal discoloration to orange or white which has only been described in children
- Severity of retinopathy reflects the severity of malaria<sup>4</sup>
- Neurologic findings in malaria are nonspecific, thus demonstrating the importance of ophthalmologic screening when cerebral malaria is suspected.

## Case Report

A 24-year-old male patient with a medical history of schizophrenia presents to the ED with fever, malaise and unexpected weight-loss. He traveled to South Sudan and returned to the US a couple days prior to presenting to the ED. His initial lab work showed hemolytic anemia without thrombocytopenia or coagulopathy. Blood smear showed evidence *Plasmodium Falciparum*. Neuroimaging was unremarkable.

### Ophthalmic exam:

Vision: unable to obtain due to mental status, at least 20/40

Pupils: PERRL, no rAPD

### Anterior segment:

No acute findings

Fundus Exam	OD	OS
Disc	Sharp and pink Peripapillary intraretinal hemorrhages	Sharp and pink Peripapillary intraretinal hemorrhages
Macula	5 Roth spot hemorrhages and 2 areas of subretinal hemorrhage in the inferior macula with cotton wools spots near the superior arcade	Multiple intraretinal hemorrhages
Vitreous	Clear	Clear
Vessels	Unremarkable	Unremarkable
Periphery	Unremarkable	Unremarkable
IOP	xxx	xxx



Figure 2. Left eye showing superior peripapillary intraretinal hemorrhages.

## Conclusion and Outcome

The presence of malarial retinopathy serves as a surrogate finding for cerebral malaria and ophthalmologic screening is important for staging disease severity and guiding treatment.

The patient was treated with artesunate, atovaquone and artemether-lumefantrine and recovered fully. All retinal hemorrhages resolved upon completion of treatment and he had no visual complaints on follow-up.

## References

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