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Case Report

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Red Eye with Red Content in the Anterior Chamber: A Case Report of Buerger's Disease

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ABSTRACT

Ocular involvement in Buerger's disease is rare, with acute anterior uveitis (AAU) and hyphema being uncommon manifestations. We report a case of a 40-year-old male with Buerger's disease presenting with AAU and hyphema. The patient presented with sudden onset redness and pain in the right eye for 3 days, with 1 mm hyphema and fibrin deposits. He had a history of peripheral vasculopathy and multiple amputations. Ocular exam revealed non-granulomatous acute anterior uveitis with hyphema. Vision and inflammation improved within 2 days of treatment. Hyphemic acute anterior uveitis can occur in Buerger's disease, and early management is crucial to prevent progression.

Keywords
Buerger's disease; hyphema; red eye; uveitis

INTRODUCTION

Buerger's disease (Thromboangiitis obliterans) is a non-atherosclerotic, inflammatory occlusive vasculitis affecting small- and medium-sized vessels, mostly in young male smoker.[1,2] It primarily involves the limbs but rarely affects the eyes. Pathologically, it progresses through acute, subacute, and chronic phases, characterized by inflammatory thrombi and vascular wall involvement.[1,3] Ocular manifestations are rare and include uveitis, retinitis, optic neuritis, and glaucoma. Uveitis with hyphema is particularly uncommon. We report a rare case of severe acute anterior uveitis with hypopyon and hyphema in a known Buerger's disease patient, likely the first such case reported from Nepal.

CASE PRESENTATION

A 40-year-old male with Buerger's disease and previous amputations of left below-knee, right 5th digit, and right great toe (Figure 1) presented with a 3-day history of right eye redness, pain, and photophobia. There was no prior history of ocular disease, trauma, bleeding disorders, excessive tearing, halos, or vision loss. The amputations were due to non-healing ulcers five years ago.

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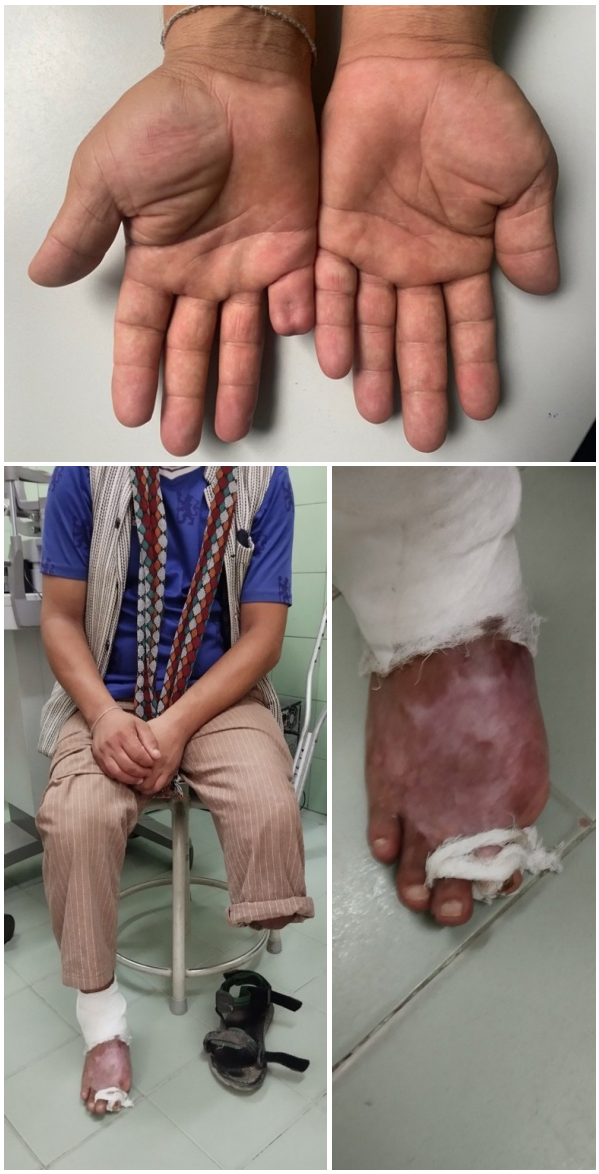

Figure 1a. Both hands showing the amputed 5th digit in right hand. 1b. Amputated left leg below the knee and great toe in right leg. 1c. Amputated great toe in right leg

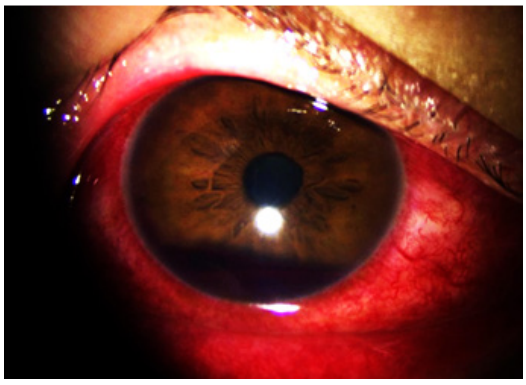

Figure 2. Diffuse conjunctival congestion, circumcorneal congestion and hyphema in right eye

The patient was under oral antiplatelet and statin along with calcium, and vitamin supplements for medical management of peripheral vascular disease. He was a chronic smoker for the past 23 years, smoking half a packet of cigarettes daily with 11.5 pack-year.

On initial examination, the patient's best-corrected visual acuity (BCVA) was 6/6, N6 in both eyes. The right eye showed diffuse and circumcorneal congestion, severe anterior chamber inflammation with fibrin, 1 mm hyphema (Figure 2), and a miotic, non-dilating pupil with 360° synechia. Keratic precipitates and iris nodules were absent, and the lens and vitreous were clear. Fundus view was limited, and disc was just visible. The left eye exam was unremarkable.

Intraocular pressure was 21 mmHg in the right eye and 14 mmHg in the left. A provisional diagnosis of right eye non-granulomatous acute anterior uveitis was made. Initial treatment included topical corticosteroid (prednisolone acetate 1%), antibiotic (ofloxacin 0.3%), and cycloplegic (atropine 1%) to reduce inflammation and photophobia.

Baseline uveitis investigations sent, including the platelet counts, were within normal limits except Mantoux test which came back positive (20 mm induration in 72 hours) (Figure 3).

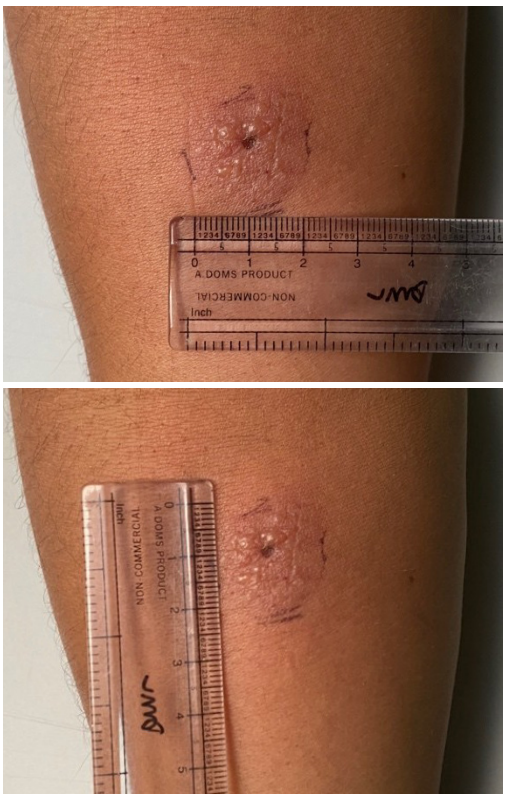

Figure 3. Mantoux test showing 20 x20 mm induration in the arm

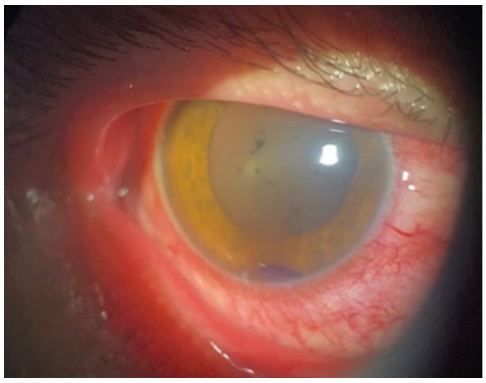

Figure 4. Reduction in the hyphema and anterior chamber cellular activity during follow up examination

The patient's ocular symptoms improved with treatment. Follow-up examination revealed a reduction in conjunctival congestion, anterior chamber inflammation (Figure 4).

Fundus examination of both eyes were unremarkable. Diagnosis was revised to right eye acute non-granulomatous anterior uveitis with hyphema in a known case of Buerger's disease. Latent tuberculosis was established following pulmonology consultation and no active intervention was opted for tuberculosis.

The patient has been continuing his regular oral medicines and no further evidence of uveitis noted over the past 2 years period.

DISCUSSION

Buerger's disease is a non-atherosclerotic, inflammatory occlusive vasculitis strongly linked to smoking. Its prevalence ranges from 0.5–5.6% in Western Europe to as high as 80% in Israel, with a male predominance.[2] However, cases in females are rising with increasing smoking rates, now accounting for 11–23%.[1] While it mainly affects small- to medium-sized limb vessels, leading to ischemia and gangrene, it can also involve gastrointestinal, cerebral, coronary, and renal arteries.[2] Ocular manifestations are rare but include NAION, retinal vasculitis, CRAO, BRAO, glaucoma, uveitis, and others, likely due to the underlying systemic vasculitis. The exact pathophysiological mechanisms leading to these ocular complications remain unclear, but they may be related to the systemic vasculitis characteristic of the disease.[4]

Ocular involvement in Buerger's disease is rare, with uveitis being even less common, accounting for only 4.55% of ocular cases.[3] Literature on uveitis in Buerger's disease is scarce, and further studies are needed. An autoimmune component in thromboangiitis obliterans may contribute to uveitis.[2] Hyphema is a rare complication of uveitis, seen in conditions like RA, Behçet's disease, and HSV. It may result from fragile neovascular vessels, vasculitis, or increased diapedesis.[5] Though the patient was on antiplatelets, hyphema was likely inflammatory, not drug-induced. This case may be the first reported from Nepal with AAU and hyphema in Buerger's disease.

Topical steroids rapidly reduced the severe anterior chamber reaction within 2 days, preventing complications and contributing to a better prognosis. Prompt diagnosis and timely intervention are crucial for effective management and improved outcomes in such cases.

Collaboration between ophthalmologists and cardiovascular surgeons is essential for early diagnosis and prompt management of Buerger's disease. With no definitive cure, smoking cessation and symptomatic treatment remain the mainstay.

CONCLUSION

Ocular manifestations in Buerger's disease is very rare but it should be considered as a differential diagnosis in patients with hyphemic uveitis. Hyphema is infrequent but an important finding of uveitis.

CONSENT

Written informed consent was taken from the patient regarding the case publication.

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CONFLICT OF INTEREST

The author(s) declare that they do not have any conflicts of interest with respect to the research, authorship, and/or publication of this article.

AUTHOR CONTRIBUTIONS

All the authors were involved in the case management and manuscript preparation.

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