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A Case of Retinal Vessel Occlusion Caused by *Bartonella* Infection

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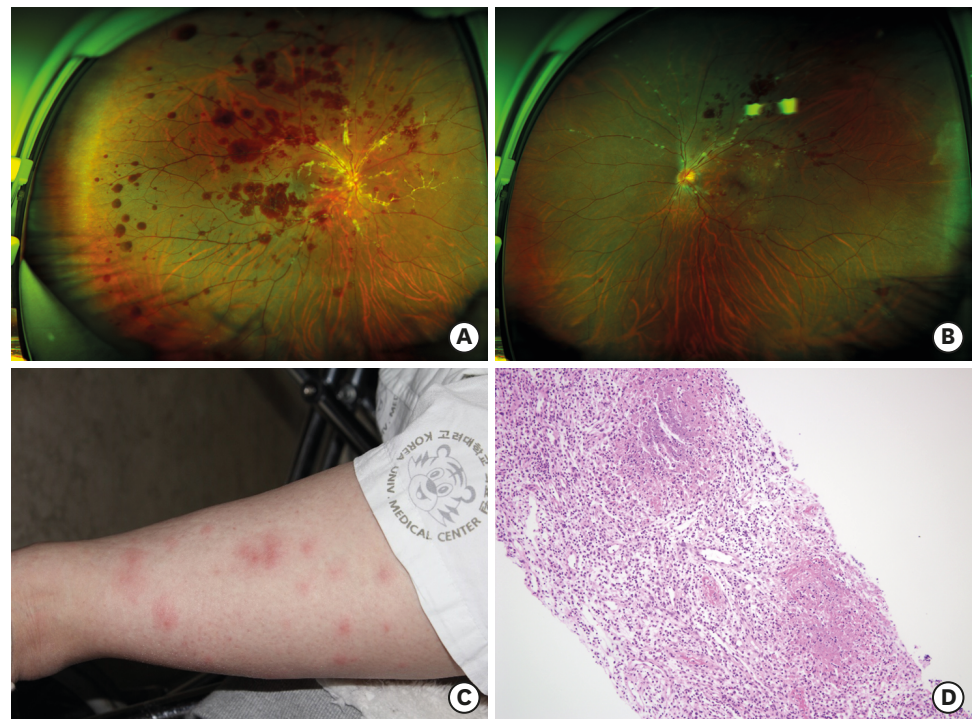


Fig. 1. Clinical features. (A) Wide-field fundus photography showed multiple retinal hemorrhages and severe vascular sheaths around the optic disc in the right eye. (B) Retinal hemorrhages and candle-wax-dripping sign is seen in the superior hemisphere and around the optic disc of the left eye. (C) Erythema of the lower extremities. (D) Gun biopsy of lymph nodes in the right pubis revealed necrotizing granulomatous lymphadenitis. For photographs and medical records that consisted possible identification of the patient, a consent form was obtained from the patient for use of publication.

A 29-year-old female visited the emergency room with sudden visual loss in the right eye started on the same day. She had been suffering from fever for two days. A best-corrected visual acuity (BCVA) was 0.5/0.7 in the Snellen chart. Fundus examination (Fig. 1) showed multiple retinal hemorrhages. Severe vascular sheaths around the optic disc area were present in the right eye. Candle-wax-dripping sign in the superior hemisphere were found in the left eye.

Disclosure

The authors have no potential conflicts of interest to disclose.

Author Contributions

Conceptualization: Woo M, Kim SW.
Investigation: Woo M, Ahn S. Writing - original draft: Woo M. Writing - review & editing: Ahn S, Song JY, Kim SW.

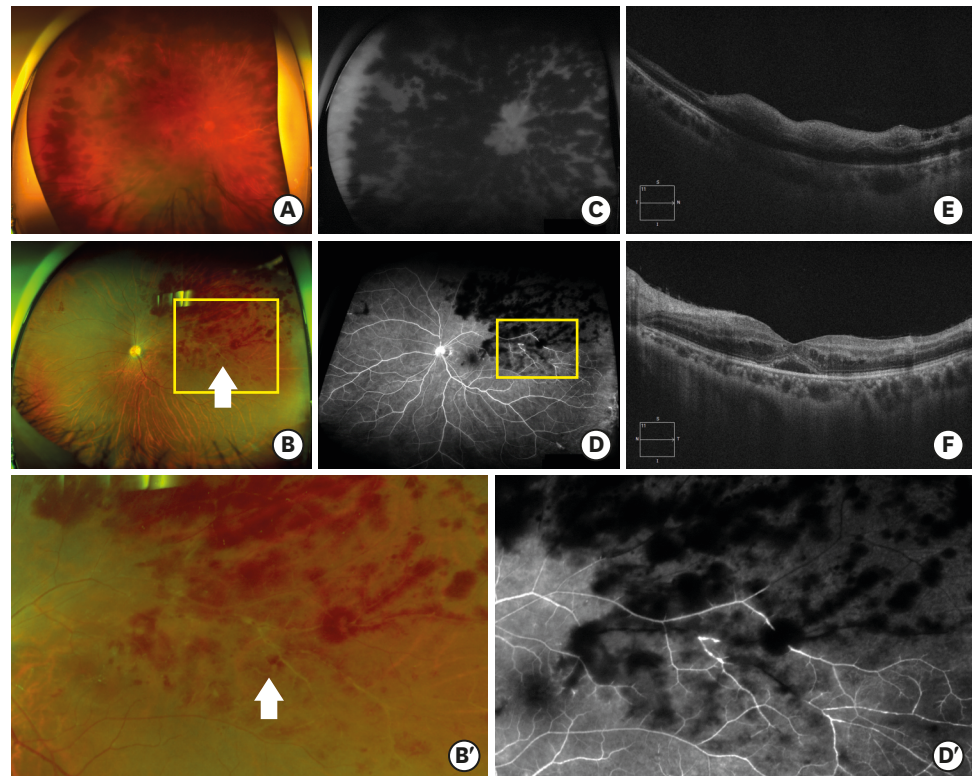


Fig. 2. Ophthalmological features. (A, B) Wide-field fundus photographs of 10 days after admission. Retinal hemorrhages had worsened in both eyes, significantly on the right. Vascular sheath is seen in the left eye (arrow). (C, D) Early phase, wide-field fluorescein angiography. Severe near-total retinal vascular occlusion is seen in the right eye, while branch retinal vascular occlusion of the superotemporal quadrant was noticed in the left eye. (E, F) Optical coherence tomography images. Hyper-reflective swelling and small cysts can be seen on the inner retina of the right eye. Cystoid macular edema with subretinal fluid is noted in the left eye. (B') is a magnified image of the drawn yellow box in (B). (D') is a magnified image of the drawn yellow box in (D). For photographs and medical records that consisted possible identification of the patient, a consent form was obtained from the patient for use of publication.

On systemic examination, erythema of the lower extremities (Fig. 1C) and right inguinal lymph node enlargement were discovered. With systemic doxycycline (100 mg) and gentamicin (90 mg) administration, fever subsided after three days. *Bartonella* infection was confirmed after 10 days with in-house indirect immunofluorescent assay (IFA) analysis (immunoglobulin G; cutoff points for seropositive titer at 1:64).¹ Lymph node biopsy showed necrotizing granulomatous lymphadenitis (Fig. 1D). On the same day, the BCVA decreased to hand motion in the right eye. When asked, she could not specify when the vision loss began. The candle-wax-dripping sign in the left eye had progressed to vascular sheath with flame-shaped hemorrhages. Fluorescein angiography shows a rack of filling of the retinal arteries. Blocked fluorescence by retinal hemorrhage was found in the whole area of right eye and in the superotemporal quadrant of left eye. Inner-retinal hyper-reflectivity of the right eye and cystoid macular edema in the left eye were revealed (Fig. 2). The impression was central retinal artery and vein occlusion for the right eye and branch retinal artery and vein occlusion for the left eye, associated with severe vasculitis secondary to *Bartonella* infection. The patient was treated with a systemic methylprednisolone 500 mg, anticoagulant (Enoxaparin sodium 60 mg) and Rifampin (300 mg). Three month after disease onset, the BCVA in the right eye improved to 0.1. For photographs and medical records that consisted possible identification of the patient, a consent form was obtained from the patient for use of publication.

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