A Case of Peripheral Ulcerative Keratitis in a Patient with Rheumatoid Arthritis

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Case Report

Patient: 85-year-old female

Chief complaint: Blurred vision, pain, and redness of the right eye presenting for 4 weeks

Past medical history: She was diagnosed with rheumatoid arthritis (RA) in a public health center 10 years ago. However, she never took medication for RA. She has been receiving regular ophthalmologic follow up because she has a cataract in the right eye. In a test performed two months ago, the cornea of the right eye was clear.

Physical examination: Upon admission, she had deformative arthritis with low current disease activity. In the slit lamp examination, a 3 mm deep ulceration of the cornea was exhibited in the right eye (Figure 1). Adjacent corneal pannus (neovascularization) was observed and the sclera was not inflamed. The patient could only count fingers held 30 cm from her face and intraocular tension was 8 mmHg.

Laboratory tests: Laboratory testing revealed white blood cell of 6.4×10³/mm³, hemoglobin of 10.5 g/dL and platelet of 299×10³/mm³, erythrocyte sedimentation rate of 118 mm/hr, C-reactive protein of 2.71 mg/dL. Rheumatoid factor was 173.6 IU/mL, anti-cyclic citrullinated peptide antibody was over 1,200 U/mL. Anti-nuclear antibody was weakly positive.

Radiologic findings: Simple hand and knee x-rays showed advanced deformities due to longstanding RA (Figure 2). In the optical coherence tomography test, corneal thinning of the right eye was observed (Figure 3).

Diagnosis and treatment: Following a diagnosis of peripheral ulcerative keratitis (PUK) in this RA patient, she was treated with intravenous steroid pulse therapy (methylprednisolone 1 g per day for 3 days) with scleral patch graft and amniotic mem-

Figure 1. Slit lamp examination of the right eye shows a peripheral corneal ulcer (black arrow) and adjacent corneal neovascularization (white arrow).

Figure 2. Deformities due to longstanding rheumatoid arthritis are shown on hand x-ray.
brane transplantation. She was discharged with oral prednisolone 30 mg per day.

Discussion

Corneal inflammation as an extraarticular manifestation of RA is a significant complication in patients with RA. In a severe case of PUK, corneal deterioration may lead to irreversible loss of vision (1). We here present a case of PUK in a patient with long standing RA. In Korea, 2 cases of necrotizing scleritis which developed after pterygium excision in patients with RA were reported (2,3). However, a case of PUK in a patient with RA has never been published in Korea. Furthermore this patient has never undergone ophthalmic surgery and there was no corneal lesion in the right eye upon examination performed 2 months ago.

The severity of the corneal inflammation in RA is often related to the activity of the systemic vasculitis and usually parallels the severity of the scleritis, but can occur in eyes with little scleral inflammation (4,5). When the patient visited our hospital, her RA was not active (tender or swollen joint count, 0).

PUK should be treated with a rapid and aggressive approach. There is no clear consensus of treatment for PUK, but surgical intervention and systemic immunosuppressive agents such as steroids, cyclophosphamide or biologic agents (infliximab, rituximab, daclizumab) have been shown to be effective for ulcerative keratitis (4,6-9).

References