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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 $6.4\times10^3/mm^3$, hemoglobin of 10.5 g/dL and platelet of $299\times10^3/mm^3$, 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-

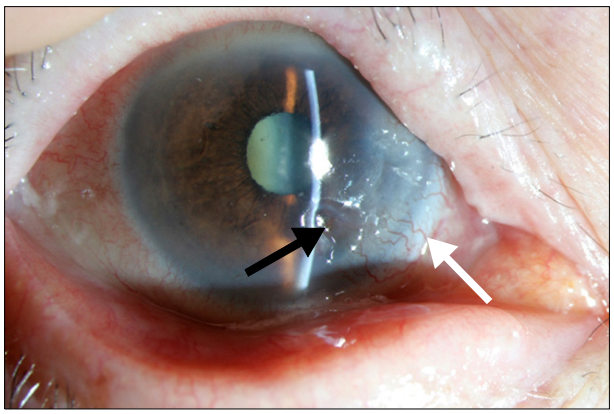

Figure 1. Slit lamp examination of the right eye shows a peripheral corneal ulcer (black arrow) and adjacent corneal neovascularization (white arrow).

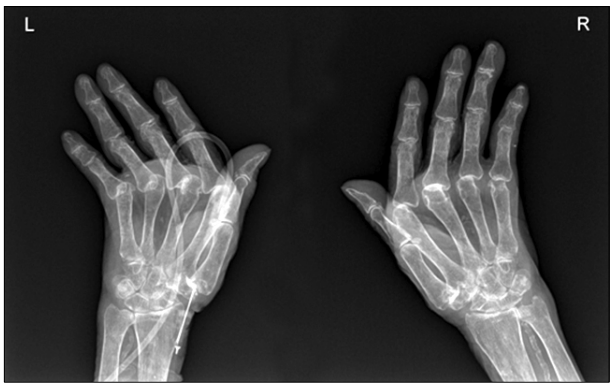

Figure 2. Deformities due to longstanding rheumatoid arthritis are shown on hand x-ray.

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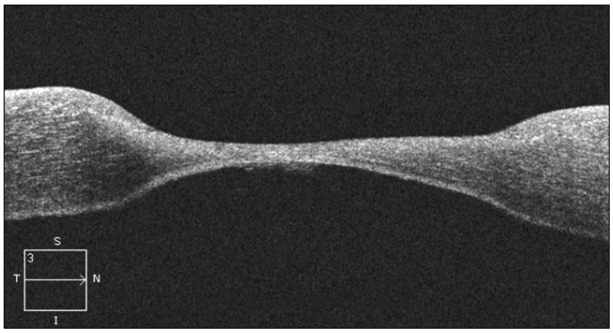

Figure 3. Optical coherence tomography exam reveals corneal thinning in the right eye.

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

1. Squirrell DM, Winfield J, Amos RS. Peripheral ulcerative keratitis 'corneal melt' and rheumatoid arthritis: a case series. Rheumatology (Oxford) 1999;38:1245-8.
2. Kim MJ, Joo CK. A case of enucleation due to extensive necrotiaing scleritis after pterygium excision in a rheumatoid arthritis patient. J Korean Ophthalmol Soc 1998;39:777-83.
3. Kim JH, Kim HO, Jeong YG, Yun SU, Lee KJ, Lee CM, et al. A case of scleromalacia perforance that developing after surgery for excision of the pterygium in a patient with rheumatoid arthritis. J Korean Rheum Assoc 2010;17:93-7.
4. Foster CS, Forstot SL, Wilson LA. Mortality rate in rheumatoid arthritis patients developing necrotizing scleritis or peripheral ulcerative keratitis. Effects of systemic immunosuppression. Ophthalmology 1984;91:1253-63.
5. Iliou C, Anthis N, Tsifetaki N, Kitsos G, Voulgari PV. Clinical images: Corneal melt in a woman with longstanding rheumatoid arthritis. Arthritis Rheum 2012;64:253.
6. Smith JR, Levinson RD, Holland GN, Jabs DA, Robinson MR, Whitcup SM, et al. Differential efficacy of tumor necrosis factor inhibition in the management of inflammatory eye disease and associated rheumatic disease. Arthritis Rheum 2001;45:252-7.
7. Papaliodis GN, Chu D, Foster CS. Treatment of ocular inflammatory disorders with daclizumab. Ophthalmology 2003;110:786-9.
8. Ahmadi-Simab K, Lamprecht P, Nölle B, Ai M, Gross WL. Successful treatment of refractory anterior scleritis in primary Sjogren's syndrome with rituximab. Ann Rheum Dis 2005;64:1087-8.
9. Smith JR, Mackensen F, Rosenbaum JT. Therapy insight: scleritis and its relationship to systemic autoimmune disease. Nat Clin Pract Rheumatol 2007;3:219-26.