EDORIUM Journals

Int J Case Rep Images 2018;9:100887Z01HI2018.
www.ijcasereportsandimages.com

CLINICAL IMAGE PEER REVIEWED | OPEN ACCESS

Widening of the narrow rheumatoid knee joint space associated with combination of methotrexate and abatacept therapy

Hitoshi Imamura, Katsunori Ikari

CASE REPORT

A 65-year-old female was diagnosed with rheumatoid arthritis about 10 years. She had experienced continous severe knee pain from the last six months in her right knee. She had undergone treatment with methotrexate (MTX) 6–8 mg/week as the sole regimen over the last eight years. At this time, the patient was walking with the aid of crutches, and her Knee Society Knee Score and Functional Score [1] were 47 points and 5 points, respectively. Severe joint space narrowing was evident on upright anteroposterior radiography (Figure 1A), which is an indication for total knee arthroplasty. Due to persistent disease activity (DAS28 = 4.1), the patient was started on MTX 8 mg/week plus intravenous abatacept 500 mg/month. After 18 months of this treatment, there was improvement of symptoms, mostly in the right knee. The patient's Knee Society Knee Score and Functional Score had increased to 80 points and 60 points, respectively. She was able to walk independently without crutches, and upright anteroposterior radiography showed widening of the narrow knee joint space (Figure 1B).

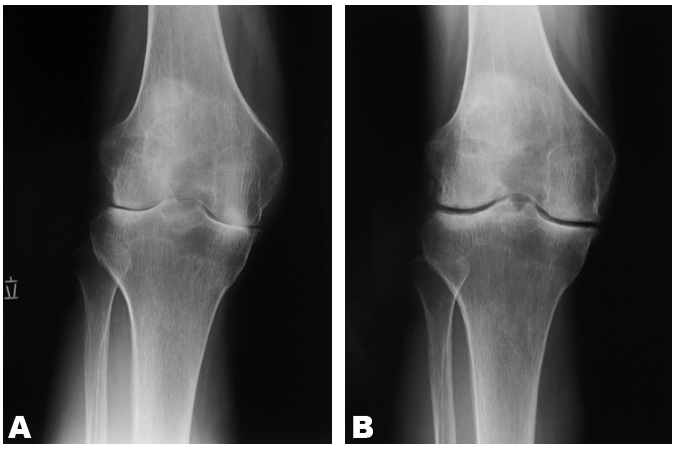

Figure 1: Upright anteroposterior knee radiography (A) Before abatacept introduction, (B) After 18 months of abatacept introduction.

DISCUSSION

To date, abatacept has been known as an agent that reduces the progression of radiographic structural damage in rheumatoid arthritis patients with an inadequate response to MTX [2–4]. However, this case showed widening of the narrow knee joint space after the introduction of abatacept treatment. We believe that our case is the first to demonstrate this knee joint space widening, which is expected to be extended with longer-term observations of this rheumatoid knee. As both the Knee Society Knee Score and Functional Score were also improved, it is likely that the impaired cartilage tissue within the right knee joint was being substituted by cartilage-like tissue through some as yet unclarified mechanisms. This change likely occurred because combined methotrexate and abatacept therapy has a strong effect on the chemical environment and cartilage regeneration within the rheumatoid knee joint.

Hitoshi Imamura[1], Katsunori Ikari[1]

Affiliation: [1]MD, PhD, Department of Orthopedic Surgery, Institute of Rheumatology, Tokyo Women's Medical University, Shinjuku, Tokyo, Japan.

Corresponding Author: Hitoshi Imamura, MD, PhD, Department of Orthopedic Surgery, Institute of Rheumatology, Tokyo Women's Medical University, Tokyo, Japan, 10-22 Kawada, Shinjuku, Tokyo 162-0054 Japan; Email: h-imamu@hotmail.co.jp

Received: 30 November 2017
Accepted: 28 December 2017
Published: 01 February 2018

CONCLUSION

This case showed widening of the narrow rheumatoid knee joint space associated with combination therapy with methotrexate plus abatacept. In addition, both the Knee Society Knee Score and functional score were also improved after the introduction of this combination therapy. Additional work is required for understanding the rheumatology underlying this case.

****

Keywords: Abatacept, Knee joint space, Methotrexate, Rheumatoid arthritis

How to cite this article

Imamura H, Ikari K. Widening of the narrow rheumatoid knee joint space associated with combination of methotrexate and abatacept therapy. Int J Case Rep Images 2018;9:100887Z01HI2018.

Article ID: 100887Z01HI2018

****

doi: 10.5348/100887Z01HI2018CL

REFERENCES

1. Insall JN, Dorr LD, Scott RD, Scott WN. Rationale of the Knee Society clinical rating system. Clin Orthop Relat Res 1989 Nov;(248):13–4.
2. Kremer JM, Genant HK, Moreland LW, et al. Effects of abatacept in patients with methotrexate-resistant active rheumatoid arthritis: A randomized trial. Ann Intern Med 2006 Jun 20;144(12):865–76.
3. Genant HK, Peterfy CG, Westhovens R, et al. Abatacept inhibits progression of structural damage in rheumatoid arthritis: Results from the long-term extension of the AIM trial. Ann Rheum Dis 2008 Aug;67(8):1084–9.
4. Kremer JM, Peterfy C, Russell AS, et al. Longterm safety, efficacy, and inhibition of structural damage progression over 5 years of treatment with abatacept in patients with rheumatoid arthritis in the abatacept in inadequate responders to methotrexate trial. J Rheumatol 2014 Jun;41(6):1077–87.

****

Author Contributions

Hitoshi Imamura – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published
Katsunori Ikari – Substantial contributions to conception and design, Revising it critically for important intellectual content, Final approval of the version to be published

Guarantor of Submission

The corresponding author is the guarantor of submission.

Source of Support

None

Consent Statement

Written informed consent was obtained from the patient for publication of this case report.

Conflict of Interest

Katsunori Ikari received honorarium for the lecture and/or unrestricted research grants from AbbVie, Inc., Asahi Kasei Pharma Corp., Astellas Pharma Inc., Bristol-Myers Squibb Co., Chugai Pharmaceutical Co., Eisai Co., Ltd., Hisamitsu Pharmaceutical Co. Inc., Janssen Pharmaceutical K.K., Kaken Pharmaceutical Co. Ltd., Mitsubishi Tanabe Pharma Co., Santen Pharmaceutical Co., Ltd., Taisho Toyama Pharmaceutical Co. Ltd., and Takeda Pharmaceutical Co., Ltd. The sponsors were not involved in the: study design; collection, analysis, and interpretation of data; writing of the paper; and/or decision to submit for publication.