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CORRESPONDENCE

Clinically and radiologically successful treatment of spondylitis by guselkumab in a patient with pustulotic arthro-osteitis

A 29-year-old Japanese woman presented with a 6-month history of pustular eruptions on the palms and soles. She also suffered from pain and stiffness in the anterior chest and the lumbar spine for 3 months, which were treated with loxoprofen. Although she had no history of rheumatoid arthritis, psoriatic arthritis, or ankylosing spondylitis, she was diagnosed with endometrial uterine cancer 3 years before. After treatment with surgery and chemotherapy, she experienced no recurrence of the tumor. She had neither focal infection nor history of smoking. At presentation, the patient had erythema with scales and pustules on the palms and soles. Palmoplantar pustulosis (PPP) area and severity index (PPPASI) was 16.8. Serologically, C-reactive protein and rheumatoid factor were negative. Lumbar magnetic resonance imaging (MRI) revealed bone marrow edema in L4 and L5 under T2-weighted condition, corroborating the presence of spondylitis (Figure 1A). ^{99m}Tc bone scintigraphy showed increased uptakes in the right clavicle and sternoclavicular joint and the lumbar spines (Figure 1B). A diagnosis of PPP with pustulotic arthro-osteitis (PAO) was made. Three-month treatment with topical betamethasone butyrate propionate and maxacalcitol resulted in partial improvement of skin symptoms, and PPPASI decreased to 7.9 (Figure 1C). On the other hand, pain in the back and anterior chest was persistent. Her Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) remained as high as 4.8. Because of insufficient improvement of skin symptoms and intractable back pain, treatment with anti-interleukin-23p19 subunit monoclonal antibody guselkumab was initiated. After 6-month guselkumab therapy, back pain visual analogue scale improved to 3 compared to 6 at the initiation of the treatment. In addition, BASDAI decreased to 4. Follow-up lumbar MRI demonstrated remarkable reduction of bone marrow edema in the vertebral bodies of L4 and L5 using short TI inversion recovery image (Figure 1D). Bone scintigraphy also confirmed decreased uptakes in the lumbar spines and the right clavicular region (Figure 1E). On the other hand, her anterior chest pain did not ameliorate even after the treatment. During the 6-month treatment, skin symptoms completely disappeared (Figure 1F).

The efficacy of guselkumab for PPP has been established,[1,2] and it is approved for PPP in Japan. However, very limited information is available on the efficacy of this drug for PAO.[3] In particular, its effectiveness for spondylitis in PAO is largely unknown. We have recently reported that guselkumab improves joint pain of PAO patients as a whole.[4] In a PPP clinical trial, 52-week guselkumab treatment showed beneficial outcomes for MRI scores as well as EQ-5D pain/discomfort scores in PPP patients with PAO, in which the spine, sacroiliac joint, and peripheral joints were considered together.[3] It was also reported that guselkumab alleviated joint pain in a patient with ankylosing-spondylitis-type PAO,[5] albeit follow-up imaging assessment was not performed after treatment. Therefore, to our knowledge, this is the first report showing the effectiveness of guselkumab for spondylitis due to PAO demonstrated not only by amelioration of clinical symptoms but also by the improvement in the imaging findings, which warrants further studies on the usefulness of guselkumab for PAO.

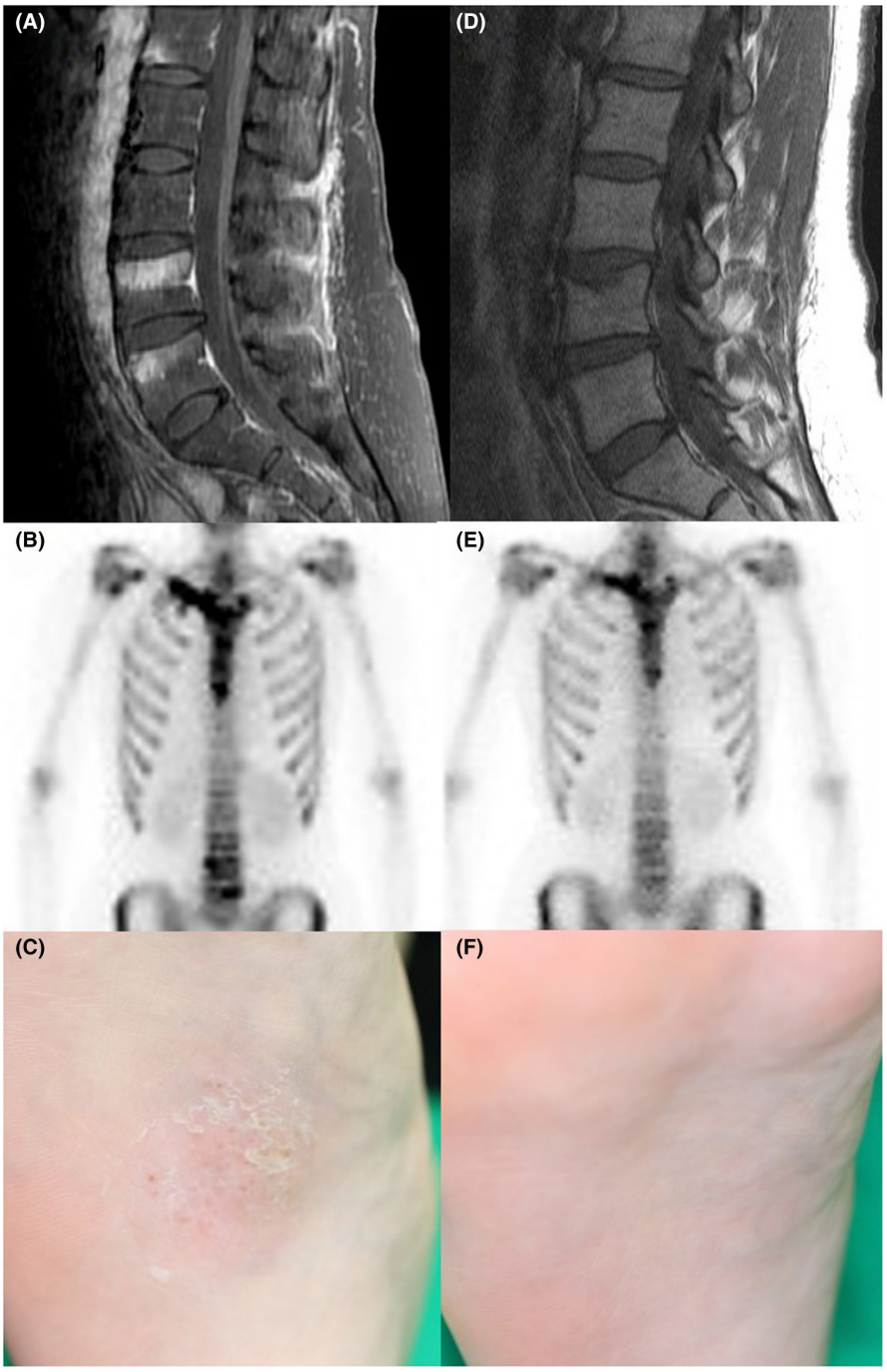

FIGURE 1 Magnetic resonance imaging before (A: T2-weighted image) and after 6-month (D: short TI inversion recovery image) guselkumab treatment. Bone marrow edema in the vertebral bodies of the first, fourth, and fifth lumbar disappeared after 6-month treatment compared to baseline. On the other hand, bone erosion remained in the fourth lumbar vertebral body even after treatment. Bone scintigraphy images of hole body before (B) and after 7-month (E) guselkumab treatment. Decreases of uptakes in the right clavicle, sternoclavicular joint, and the lumbar spines were observed after treatment compared to baseline. Clinical features of the right sole before (C) and after 6-month (F) guselkumab treatment.

CONFLICT OF INTEREST STATEMENT

NI has received honoraria for speaker from AbbVie, Novartis, Kyowa-Kirin, Chugai Pharmaceutical, Taiho, and UCB. HF has received honoraria for speaker and consultancy from AbbVie, Eisai, Novartis, Janssen Pharmaceutical, Maruho, Taiho, Eli Lilly, Sun Pharma, and Mitsubishi Tanabe Pharma.

ETHICS STATEMENT

Approval of the research protocol: N/A.
Informed Consent: The patients provided informed consent for the publication of the images submitted with this article.
Registry and the registration No: N/A.
Animal Studies: N/A.

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