

통증 및 근골격재활

게시일시 및 장소 : 10 월 18 일(금) 08:30-12:20 Room G(3F)

질의응답 일시 및 장소 : 10 월 18 일(금) 10:00-10:45 Room G(3F)

P 1-144

Severe acute inflammatory response with inflammatory arthritis after zoledronic acid infusion

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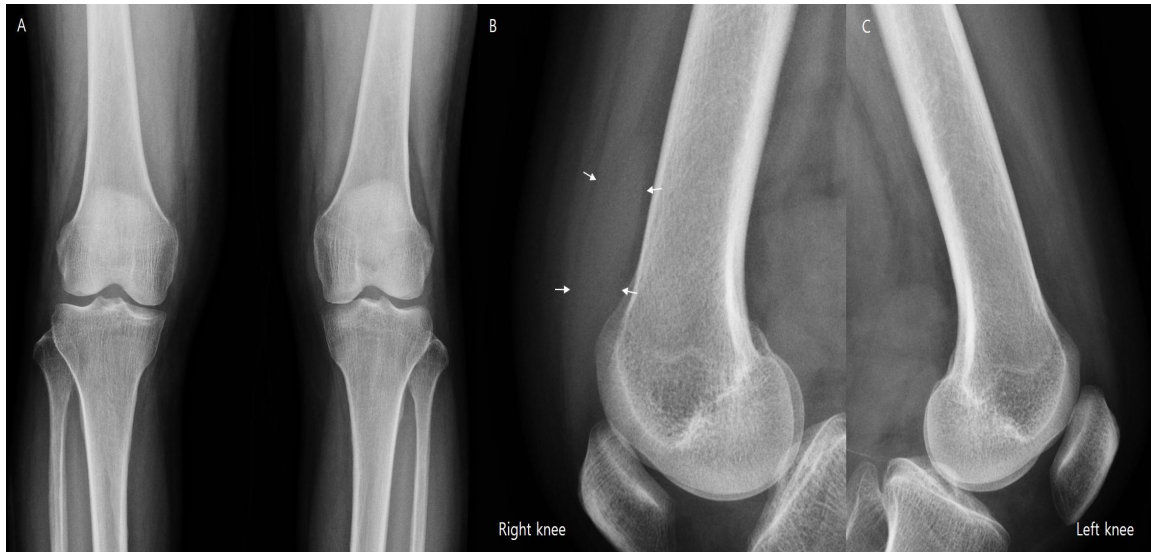
Zoledronic acid (ZA) is the later generation bisphosphonate which is used for the treatment of the metabolic bone diseases including osteoporosis. The common side effect is the acute phase response (APR): fever, myalgia, nausea and vomiting, which are usually tolerable and transient. However, inflammatory arthritis and severe APR necessitating hospitalization are very rare. We present a rare case of severe complication after ZA infusion: severe inflammatory arthritis combined with the severe acute systemic inflammatory response.

A 54-year-old woman with a past history of asthma, allergic rhinitis, gastroesophageal reflux disease and severe osteoporosis, visited our outpatient clinic for the both knee pain. Radiography of the knees indicated bilateral osteoarthritis and hyaluronic acid injections were done to the bilateral knee joints. No immediate complication was found. Four days after the knee injection, the patient was given 5mg of intravenous (i.v.) ZA for the treatment of osteoporosis. Severe arthralgia at both knee joints with fever, myalgia, nausea and vomiting were occurred later that night. The patient visited the Emergency Room (ER) and was admitted for inpatient treatment on the 3rd day after the infusion. In the ER, fever up to 39.6°C was noted, and it was subtly subsided to 37.9°C at admission.

On examination, swelling with tenderness and heating sensation was found in bilateral knee joints and was more severe in the right. Laboratory tests revealed elevation of erythrocyte sedimentation rate and C-reactive protein, but no definite abnormalities in others. No possible fever focus was found in imaging studies. Arthrocentesis of bilateral knee joints was done. The synovial fluid was light yellowish and the white blood cell count was 3400/μL in the right and 8800/μL in the left, indicating inflammatory arthritis. Culture of the blood, urine, sputum and synovial fluid found no growth of the pathologic organism. Fever was subsided by the 4th day after the infusion, and myalgia was relieved on the 5th day after the infusion. The patient was discharged to home on the 7th day after the infusion. However, nausea and knee pain continued after the discharge, and the patient was re-admitted on the 9th day after the infusion. Oral prednisolone 20mg was applied on the 10th day and 11th day after the infusion, was withheld for 3 days, and was

re-administered for 10 days with a dose of 15mg. Nausea and knee pain were resolved by the 16th day after infusion, and the patient was discharged at the 19th day after the infusion.

ZA is one of the most common treatment for osteoporosis. While the well-known complication such as the APR is often mild, severe complications such as the systemic inflammatory response or the flare-up of arthritis are rare but could require hospitalization and aggressive managements. Therefore, the physician needs to be aware of these adverse effects and has to prevent for the possible risk.



Figures 1. Radiographs of the bilateral knee joints at the 1st admission (on the 3rd day after infusion). Degenerative change of both knee joints was identified (A) and joint effusion was observed in the right knee (B). Joint effusion was not significant in the left knee (C).

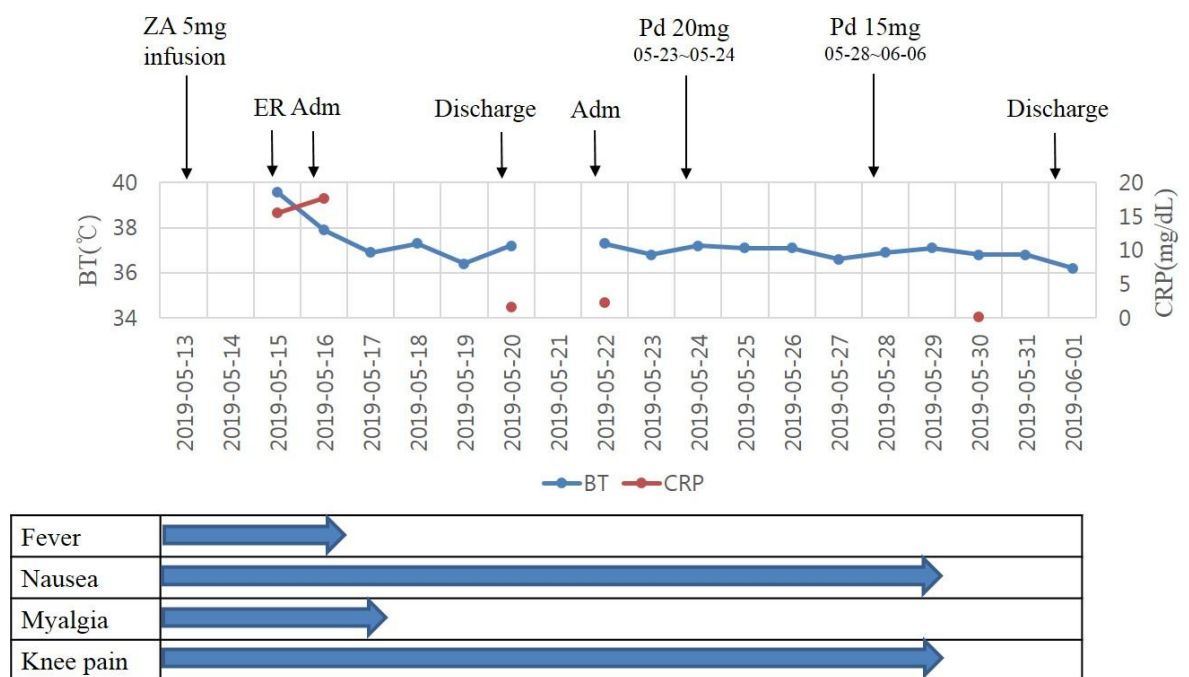


Figure 2. Chronological changes of body temperature (BT), C-reactive protein (CRP), and symptoms. ZA, zolendronic acid; ER, emergency room; Adm, admission; Pd, prednisolone

Table 1. Joint fluid laboratory test.

	Right knee	Left knee
Appearance	Light yellow	Light yellow
Specific gravity	1.015	1.01
pH	7.5	7.5
RBC	0/ μ L	0/ μ L
WBC	3400/ μ L	8800/ μ L
Granulocyte	45%	63%
Monocyte	55%	37%
Others	0%	0%
Protein	3105.52mg/dL	NT
Glucose	135mg/dL	NT
Chloride	104mEq/L	NT
Lactate dehydrogenase	917U/L	NT
Culture	No growth for 7 days	No growth for 7 days

NT, not tested due to shortage of aspirated joint fluid volume