

A Case of Acute Lymphoblastic Leukemia Presenting as Unilateral Sternoclavicular Joint Arthritis and Mass

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We report a patient with acute lymphoblastic leukemia of bone and joint, which is very rare, presenting as monoarthritis [1-4]. A 57-year-old woman presented with the complaints of right sternoclavicular (SC) joint area pain with swelling, malaise, and intermittent fever lasting for two weeks. She had no past medical history and denied trauma or injection of affected joint. The patient had episodes of fever up to 39.2°C, and mild tachycardia. On physical examination, localized heat in the right SC joint and a 2×3 cm soft and tender mass around the joint were detected. Laboratory results showed hemoglobin 10.6 g/dL, hematocrit 30.3%, platelets 242,000/mm³, and white blood cell count 5,400/mm³ including absolute neutrophil count 870/ μ L, segment neutrophil 39.6%, and monocyte 18.9%. Erythrocyte sedimentation rate was 28 mm/hour and C-reactive protein was 6.34 mg/dL.

Otherwise, blood laboratory findings and urinalysis were unremarkable. Plain radiography of clavicle and sternum showed no abnormal finding. Magnetic resonance imaging demonstrated focal cortical disruption at anteromedial aspect of right distal clavicle, decreased bone marrow signal intensity on T1 image, and right SC joint arthritis, which suggested septic arthritis with osteomyelitis or malignancy (Figure 1A~C, arrows). Bone biopsy of right distal clavicle revealed increased atypical cell infiltration with necrosis, which was consistent with leukemic infiltration (Figure 2A; H&E stain, ×400, arrows). The bone marrow biopsy showed nearly packed marrow with myelofibrosis (Figure 2B; H&E stain, ×400, arrowheads). On aspirate smears, blasts were present in up to 87.8% of all marrow nucleated cells. They were small to large-sized with round nuclei, dispersed chromatin and

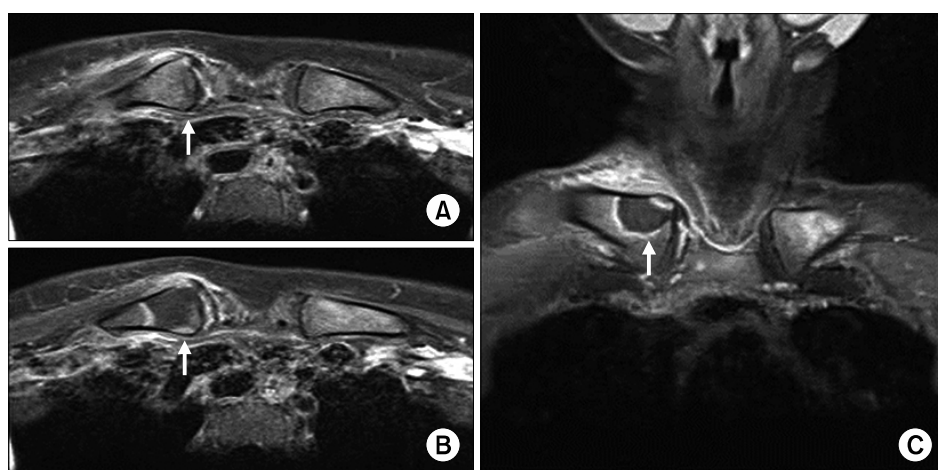


Figure 1. Magnetic resonance imaging demonstrated focal cortical disruption at anterior mid aspect of right distal clavicle and decreased bone marrow signal intensity on T1 image, and right sternoclavicular joint arthritis, which suggested septic arthritis with osteomyelitis or malignancy (A~C, arrows).

Received : October 22, 2019, Revised : December 2, 2019, Accepted : December 3, 2019

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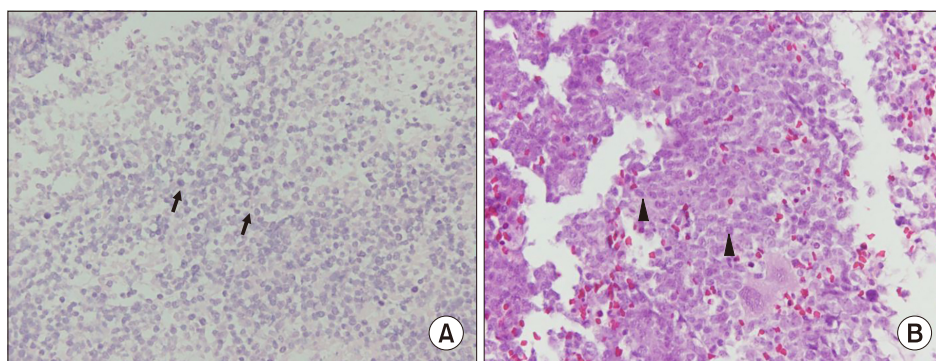


Figure 2. Bone biopsy of right distal clavicle revealed increased atypical cell infiltration with necrosis, which was consistent with leukemic infiltration (A, H&E stain, $\times 400$, arrows). The bone marrow biopsy showed nearly packed marrow with myelofibrosis (B, H&E stain, $\times 400$, arrowheads).

inconspicuous nucleoli. Normal erythroid and myeloid elements were markedly suppressed. Cytochemical stain on aspiration and biopsy demonstrated negative MPO and PAS and positive CD 34 and CD 20. All findings suggested B-lymphoblastic leukemia with chloroma of right distal clavicle and SC joint. This case indicates that malignancy should also be considered in evaluation of monoarthritis, and that chloroma of bone can precede the onset of acute lymphoblastic leukemia.

ACKNOWLEDGMENTS

This work has supported by the 2019 education, research and student guidance grant funded by Jeju National University.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

AUTHOR CONTRIBUTIONS

Among the authors, E.J.P. appointed topic, wrote and revised the manuscript. C.L.H. was responsible for the analysis and the interpretation of the pathology. J.S.K. determined and adjusted the topic, concept and drafting of the manuscript.

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