Paraneoplastic Arthritis in a Patient with Non-Hodgkin's Lymphoma

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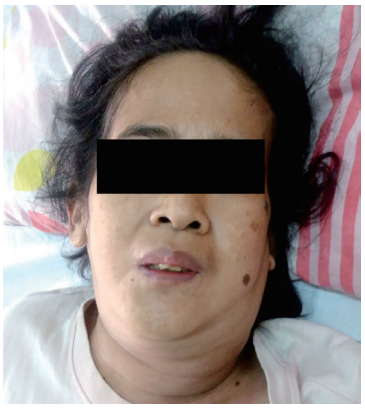

Figure 1. Left neck mass before chemotherapy

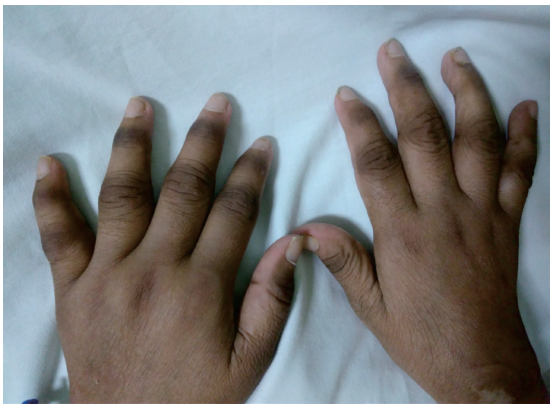

Figure 2. Bilateral joint swelling before chemotherapy

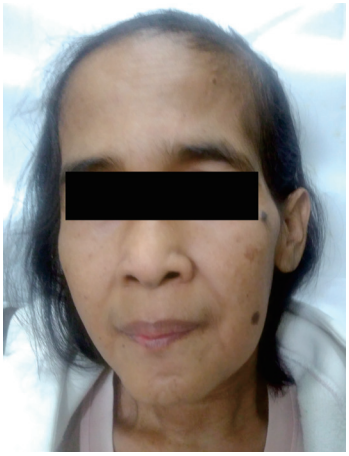

Figure 3. Shrinkage of the mass after first cycle of chemotherapy

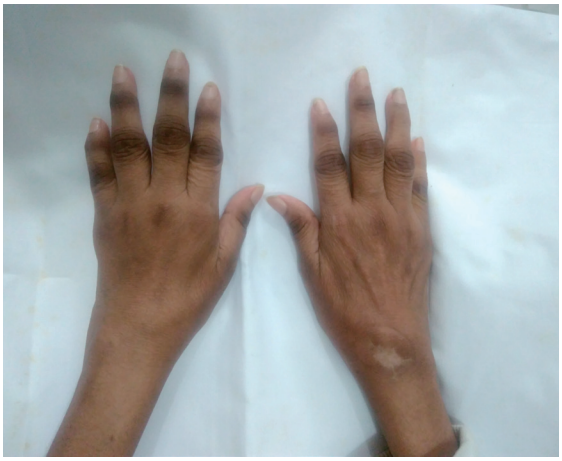

Figure 4. Improvement of joint swelling after first cycle of chemotherapy

Paraneoplastic syndromes are a group of disorders associated with benign or malignant tumors but not related to mass effect or invasion directly. Paraneoplastic syndromes may affect any organic system of the human body, such as endocrine, neurologic, dermatologic, hematologic, rheumatologic. Paraneoplastic rheumatic syndromes are not quite common, about 7-10% of paraneoplastic syndromes, and may mimic rheumatic diseases.[1,2] We present an interesting case of paraneoplastic arthritis in a woman with non-Hodgkin's lymphoma.

A-45-year-old non-smoker female presented to our institution with swollen joints and enlargement of lymph nodes on her neck. She had a history of recurrent tonsillitis in January 2016 and underwent bilateral tonsillectomy. Histologic review of the right tonsil was consistent with chronic tonsillitis while the left tonsil demonstrated aggressive type of non-Hodgkin's lymphoma. She refused chemotherapy and remained well until June 2016, when she began to complain swelling, stiffness, and pain of her joints. She sought consult several times at medical clinics and treated with analgesics for arthritis. There was no improvement, and the patient even developed difficulty in performing daily activities due to progression of the pain and stiffness. Meanwhile, she noticed slow-growing, non-tender left neck mass. She also reported weight loss, low grade fever, and decreased in appetite. Physical examination revealed firm, non-tender left neck mass, 8 x 5 x 2 cm in size with intact overlying skin. There were symmetrical bilateral finger joints swelling with limited range of motion due to pain (**Figure 1 and Figure 2**). Chest x-ray showed enlarged right paratracheal lymph nodes and x-ray of the hands showed neither erosion nor lytic lesion. Abdominal ultrasound and cardiac echocardiography result were essentially normal. Rheumatoid factor, hepatitis B antigen and antibodies for hepatitis C, HIV were negative. She then received chemotherapy with CHOP regimen (cyclophosphamide, vincristine, doxorubicin, and prednisone). There were improvement of joints complain and shrinkage of tumor after the first cycle of chemotherapy (**Figure 3 and Figure 4**). Currently, she is still undergoing the chemotherapy on schedule.

The relationship between malignancy and rheumatic diseases is complex. The pathogenesis of paraneoplastic rheumatic syndromes are not fully understood, involving a number of factors such as cytokines, hormones, peptides, and other mediators secreted by tumor.[3-5] Paraneoplastic rheumatic syndromes are not as frequent as paraneoplastic endocrine syndromes and often difficult to differentiate them from primary rheumatologic diseases.[6,7] It may precede, occur simultaneously, or develop after the diagnosis of the neoplasm. Medical history plays an important role in establishing the diagnosis since there is no consensus on when a patient with rheumatological complain should be screened for possible underlying malignancy. Our patient was initially diagnosed as primary rheumatic disease for her joints despite having recent history of lymphoma. In 2 case series reported by Morel and Kisacik, around 10% of paraneoplastic arthritis was due to lymphoma.[2,7] Clinical presentation of our patient might mimic rheumatoid arthritis. It fulfilled the clinical factors of rheumatoid arthritis ACR/EULAR diagnosis criteria with a total score of 6 (more than 10 joints and more than 6 weeks duration of signs and symptoms).[8] The diagnosis may be a dilemma, since many rheumatic diseases especially those with autoimmune phenomena may increase the risk for malignancy. Rheumatoid arthritis had been reported to increase the risk of developing lymphoma.[9,10] However, the involvement of the distal interphalangeal joints, non-erosive joint on x-ray, negativity of rheumatoid factor made rheumatoid arthritis less favored and finally, a successful response to chemotherapy reinforced the diagnosis of paraneoplastic arthritis.

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