Lung cancer with hypertrophic pulmonary osteoarthropathy mimicking acromegaly

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Summary
Lung cancer is known to be common in old ages. Hypertrophic pulmonary osteoarthropathy (HPOA) also appeared to be rare with pulmonary malignancies. We report a case of middle-aged man with lung cancer with HPOA mimicking acromegaly. Simple X-rays for hand, foot, leg and thigh showed periosteal proliferation of new bone. Whole body bone scan showed increased and diffuse uptake along cortical margins of diaphysis and metaphysis of both femurs and both tibias. Serum IGF-1 level was normal. The peripheral needle approached biopsy was performed and biopsy specimen showed adenocarcinoma of mucinous type and lepidic pattern. Additional brain MRI showed multiple distant metastases to brain. Finally, he was diagnosed with stage IV (clinically T3N2M1b) adenocarcinoma of the lung. He had received systemic combination chemotherapy with pemetrexed and cisplatin. After 4 cycles of chemotherapy, painful swelling of both hands, both feet, and both ankles disappeared and chest CT scans showed partial response. Consecutively, he has received maintenance chemotherapy with pemetrexed.

Discussion
HPOA may exist uncommonly in a secondary form associated with pulmonary malignancies and is a rare paraneoplastic manifestation. HPOA is characterized by triads, such as painful polyarthritis, digital clubbing, and periostitis of the long bones. Therapy of the underlying malignancies often leads to remission of HPOA, but there are many cases where such primary therapy is not practicable. Symptomatic treatment with nonsteroidal antiinflammatory drugs and bisphophonates may be helpful in such cases. Lung cancer occurs mainly in elderly patients. It is uncommon that the patients less than 50 years old were diagnosed of lung cancer in not only smoker but also never smoker. Acromegaly has been considered to be a rare disease, and most commonly affects adults in middle age. The patient with acromegaly has the enlargement of the jaw (macrognathia), hands, and feet. The patient in this case visited the faculty because he showed coarse face and enlarged both hands and feet. As he was in middle age, we suspected acromegaly in first. Because the normal serum IGF-1 level is strong evidence that the patient does not have acromegaly.
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Figure 1 A-D - A) Clubbing of fingers. B) Irregular periosteal reaction at radial metaphysis, metacarpal and proximal phalanges. C) Diffuse osteoporosis in both femurs with cortical thickening and periosteal reaction. D) Diffuse osteoporosis in both tibias with cortical thickening and periosteal reaction.

Figure 2 A-C - A) Whole body bone scan shows increased diffuse uptake along cortical margins of diaphysis and metaphysis of both femurs and both tibias (black arrows). B) Chest CT scan shows tumor in right upper lobe with atelectasis. C) Adenocarcinoma of mucinous type and lepidic pattern (Hematoxylin and eosin, x100).
we ruled out acromegaly and performed chest X-ray and chest CT scans. He was finally diagnosed of lung cancer. We suppose that when the patient complaint coarse face and enlargement of both hands and feet, chest X-ray or CT scans must be performed and HPOA must be considered although he was not in old age but middle age.

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Conflict of interest

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

References