

Case Report

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Hodgkin's Lymphoma in a 34-Year-Old Patient with Digital Clubbing: A Case Report

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Background: This is a rare condition, especially in adults, where digital clubbing presents as the initial manifestation of lymphoma. Here, we report a case of intrathoracic Hodgkin's disease (HD) with digital clubbing.

Case presentation: A 34-year-old female presented with B symptoms and a history of dyspnea. She did not take any particular medicine and had no history of any specific disease in herself or her family. In the examination, the patient has digital clubbing in the fingers and toes, which is painless. He also had decreased respiratory sounds and dullness in the right lung. After a CT scan and observation of consolidation and effusion, we performed a bronchoscopy on the patient. Finally, with the diagnosis of Hodgkin's lymphoma in the pathological reports, he was subjected to appropriate treatment measures.

Conclusion: A precise examination and paraclinical assistance are needed to rule out intrathoracic malignancies in patients with digital clubbing.

Keywords: Hodgkin disease; Osteoarthropathy; Digital clubbing; Adults

INTRODUCTION

Digital clubbing, hypertrophic osteoarthropathy (HOA), is an osteoarthritis condition that can cause finger and toe convexity as well as focal enlargement of the distal phalanx of the nail plate, giving the fingers and toes a pestle-like appearance. Various diseases could cause this, such as infections, inflammations, heart disease, and pulmonary malignancies (1). Despite its relation to lung cancer, digital clubbing is rarely reported in patients with lymphoma (2).

In Hodgkin's Disease (HD), B lymphocytes are the source of the malignant tumor (3). The most common symptom of this disease is painless lymphadenopathy; however, there are many other symptoms and signs. It is also common to find asymptomatic mediastinal masses. Adults are more likely to experience B symptoms (4). The typical presentation of HD in children is nonspecific,

characterized by fever, lymphadenopathy, and B symptoms (5, 6). HD accounts for 40% of all lymphomas in children despite being rare (5-6% of all childhood cancers) (7, 8). The association between clubbing and Hodgkin's lymphoma is rare (9). Presented here is a case of intrathoracic HD presenting with digital clubbing.

CASE SUMMARIES

A 34-year-old nonsmoking woman was admitted to our hospital with a 6-month history of dyspnea, right-sided chest pain, and unintentional weight loss of 15 kilograms, associated with cough and night sweats. She denied fevers, pruritus, or alcohol consumption. Past medical and family histories were unremarkable, and she was on no regular medications. On examination, the patient had prominent clubbing of her fingers and toes (Figure 1).

Wrist and ankle palpation did not reveal tenderness. There was no peripheral lymphadenopathy or hepatosplenomegaly. Chest examination revealed right-sided basal dullness and decreased breath sounds. Chest radiograph showed a right upper lobe (RUL) opacity and pleural effusion (PE) in the right lower lobe (RLL). In addition, a lung computed tomography (CT) scan showed mass-like consolidation in RUL and right middle lobe (RML) with ipsilateral pleural effusion in RLL. Also, multiple mediastinal lymph nodes were seen (Figure 2).



Figure 1. Digital clubbing in the patient's fingers

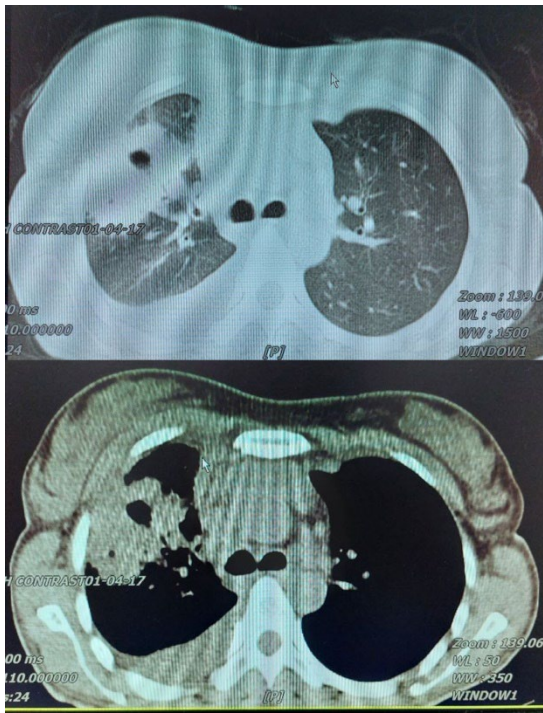


Figure 2. Lung computed tomography imaging. Both images show a right pulmonary consolidation along with pleural effusion (upper image taken at lung density)

Since the easiest way to diagnose PE is diagnostic drainage, this procedure resulted in a lymph-dominant exudative effusion. Adenosine deaminase (ADA) in PE was in a normal range. After a negative sputum smear and

culture, a bronchoscopy was performed, which revealed no endobronchial lesion, and the result of the microbial panel was negative. Finally, pleuroscopy was performed, and a biopsy was taken from the parietal pleura. The pathology report was Hodgkin's disease (Figure 3).

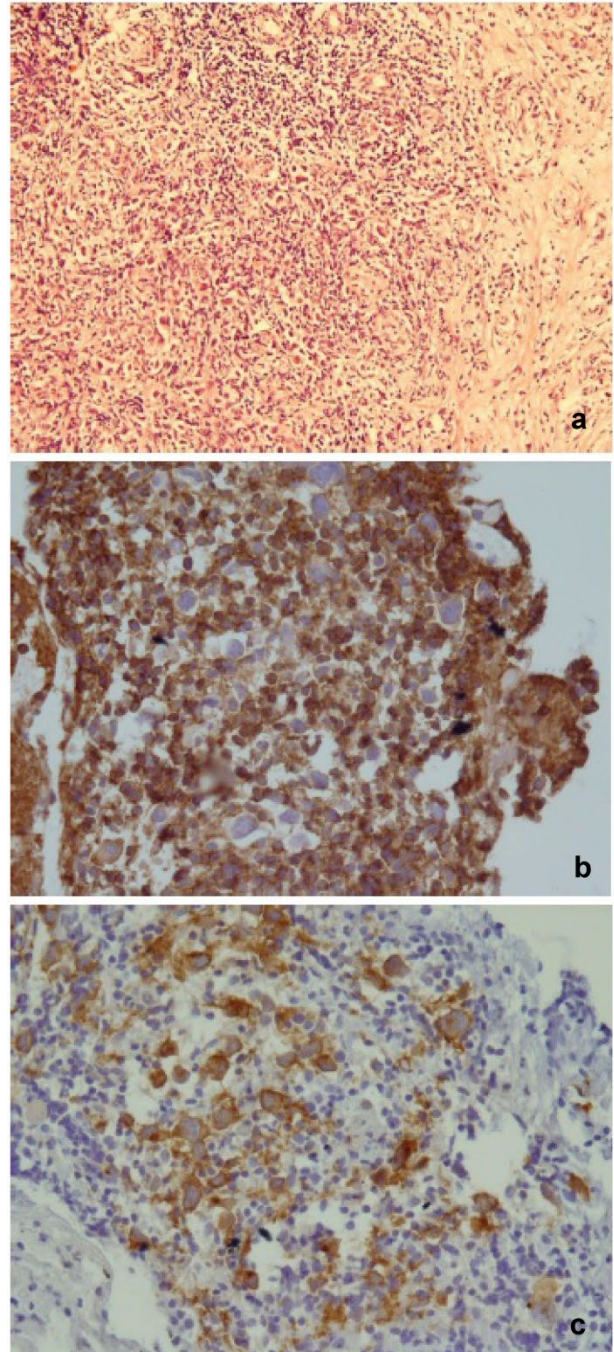


Figure 3. Pathology of Hodgkin's disease. A: Some large atypical cells set in an inflammatory background (H&E, 10x20), B: Immunohistochemistry, Leukocyte Common Antigen (LCA), negative in large atypical cells, C: Immunohistochemistry, CD30, positive in large atypical cells

DISCUSSION

Hodgkin's lymphoma is usually characterized by supradiaphragmatic non-painful lymphadenopathy and mediastinal masses that may be discovered unexpectedly on chest radiographs. HOA causes abnormal tissue proliferation in the distal extremities of the body. There are primary and secondary forms of HOA, with secondary HOA commonly affecting lung and heart health. The secondary HOA was formerly referred to as hypertrophic pulmonary osteoarthropathy because about four-fifths of patients experience pulmonary malignancies (10). Children are rarely affected by intrathoracic malignancies, whereas adults are commonly affected by intrathoracic cancers (2). Synovial effusions, especially in large joints, and digital clubbing are among the clinical features of HOA. When the involved area is palpated, periostitis usually causes pain. There may be symptoms of painful arthropathy before clubbing, which is often misdiagnosed as inflammatory arthritis (11).

The association between clubbing and Hodgkin's lymphoma is rare. In most case reports, intrathoracic Hodgkin's lymphoma affects children or adolescents. An exciting study by Utine et al. (12) describes the case of a 14-year-old boy with Hodgkin's lymphoma and HOA presenting as a nodular sclerosing intrathoracic lymphoma. Additionally, he lacked arthritis-related symptoms. The HOA was ultimately resolved after chemotherapy and radiotherapy were administered to the patient (12).

An underlying bronchial carcinoma often co-occurs with HOA in adults. It is rarely encountered in children. Hodgkin's lymphoma and HOA are not commonly associated. Hodgkin's lymphoma-related HOA usually resolves after treatment (13). An 18-year-old female with weight loss and cough symptoms for the first two years of her illness is described in a study by Goodyer et al. in 2009 (13). The patient's fingers and toes showed prominent clubbing, as in our case. CT images revealed a large mass in the mediastinum. A thoracoscopic surgery was performed with video-assisted guidance, and lung samples

were collected. HD was diagnosed based on the biopsy report. Detection of distal periosteal thickening in the tibia and fibula led to the diagnosis of HOA.

Despite our best efforts, the reason behind digital clubbing remains a mystery (14). Digital clubbing can precede HOA involvement (15). Prostaglandin E2 levels could be elevated in lung cancer patients with digital clubbing and HOA, according to some studies (16). There is no definitive understanding of the pathogenesis of clubbing in lymphoma, but some mediators, including estrogens and growth hormones (released from tumors), may contribute to clubbing. Because of pulmonary arteriovenous shunts, these mediators are not entirely removed from the circulation (17, 18). A prognostic indicator for underlying malignancy can be clubbing progression or remission (18). A 59-year-old woman was diagnosed with lung cancer and digital clubbing, as reported by Ciment AJ and Ciment L (19). Digital clubbing resolved completely following the complete remission of cancer. After the underlying malignancy is treated successfully, digital clubbing may be reversible (1, 13). Most of these patients die or have extensive metastases due to their concurrent other malignancies. Patients with HD may experience abnormalities in the joints due to endocrine changes caused by lung cancer (18).

CONCLUSION

In conclusion, when patients present with HOA clinically or radiologically, an underlying intrathoracic tumor should be considered.

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