Castleman's disease imitating adrenal mass in the retroperitoneal area

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Abstract

Castleman's disease (CD) is a non-clonal lymph node hyperplasia, mostly seen in the mediastinum. It has various clinical and pathological outcomes. There are different treatments because of its rare occurance and heterogenity. We present 2 cases which were referred to our clinic as retroperitoneal mass and diagnosed as CD after surgical resection.

Castleman's disease (CD) is a non-clonal lymph node hyperplasia and was first described in 1956 by Benjamin Castleman and colleagues.[1] It is rare and also known by follicular lymphoreticuloma, angiofollicular lymph node hyperplasia, giant cell lymph node hyperplasia, benign giant lymphoma and lymphoid hamartoma. It has various clinical and pathological outcomes. It is mostly seen in the mediastinum (60%–70%) and less seen in the abdomen (10%–17%).[2,3] Masses in the abdomen are generally seen in the retroperitoneum. We describe 2 cases of retroperitoneal mass and diagnosed as CD after surgical resection.

Case 1

A 38-year-old male was referred to our clinic due to retroperitoneal mass. He complained of non-specific abdominal pain. Abdominal ultrasonography showed a 65 × 40-mm mass in the right adrenal area. Physical examination was normal. His hemoglobin, hematocrit, serum electrolyte, renal function tests, catecholamine values and urinary catecholamine values were normal. Abdominal computed tomography showed 60 × 40-mm mass in the right adrenal area (Fig. 1). The surgical approach was transabdominal.

The patient had a mass which could not be clearly separated from the adrenal tissue in the right adrenal area and the mass was completely dislodged along with the adrenal tissue (Fig. 2). It was pathologically reported as hyaline vascular type CD (Fig. 3). The patient was referred to the hematology clinic postoperatively and no other treatment was planned. No postoperative complication was seen and the patient's non-specific pain recovered after the operation.

Case 2

A 65-year-old female underwent right nephrectomy 15 years before due to trauma. A 100 × 80-mm mass in the nephrectomy area was found on examination of a right side pain. Other blood tests, including complete blood count and catecholamine and urinary catecholamine values, were normal. Physical examinations was normal. She underwent right side exploration. The mass in the right nephrectomy area was resected with surrenal tissue during the operation. Pathological outcome was hyaline vascular type CD and surrenal tissue was normal (Fig. 4).

Discussion

CD is a heterogenous disorder and rarely occurs. It has clinic and pathologic varieties. Clinic varieties are divided into unicentric and multicentric types. Pathologic varieties are divided into 3 types: hyaline vascular type, plasma-cell variant type, and intermediate type. Hyaline vascular type is most common, with an incidence rate of 80% to 90%. Plasma-cell variant type is the most rare type and occurs with a rate of 10% to 20%, the third one is intermediate type.[4] While hyaline vascular type is generally seen in unicentric cases, plasma-cell variant type is usually seen in multicentric cases. Clinically the most common case is unicentric hyaline vascular type. Its pathogenesis is not clear as this is a rare case. Also known as Kaposi sarcoma-associated herpes virus, human herpes virus type 8 (HHV-8) can be seen especially on all human immunodeficiency virus positive (HIV) infected patients and on some of the HIV negative infected patients.[5] Human interleukin (IL-6) affects B-cells proliferation and it is secreted in germinal centres of hyperplastic lypmh nodes on multicentric patients.[6] They

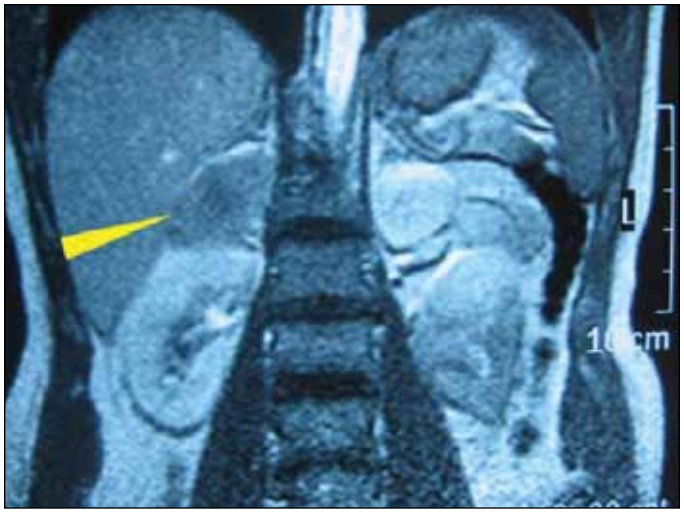

Fig. 1. Coronal section abdominal computed tomography, showing 60 × 40-mm-sized mass in right adrenal area (Case 1).

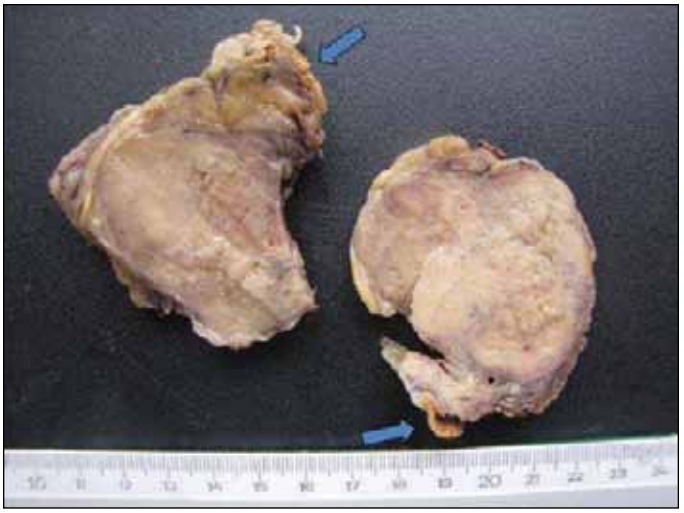

Fig. 2. Macroscopic view of the mass, that cannot be seperated from the right adrenal tissue (Case 1).

differ in pathological appearance. Follicules of lymph node in hyaline vascular type have atrophic germinal centres and in these germinal centres, there is vascular proliferation. Germinal centres are surrounded by tiny lymphocytes and this appearance is named onionskin-like appearance. In interfollicular area, there are cells like tiny T lypmphocytes, eosinophils, plasmacytoid dendritic cells. However, there is no vascular proliferation and germinal centres are hyperplastic, in the plasmacytic type.[7,8] Clinical appearance depends on the clinical and histopathological features of the disease. Unicentric hyaline vascular usually occurs with one or more grown lymph nodes and laboratory tests are usually normal. In plasmacytic type, systematic symptoms appear (i.e., fever, night sweating, weight loss, painful lymphadenopathy, splenomegaly). Anemia, thrombocytopenia, increased sedimentation speed usually accompany clinical symptoms.[8]

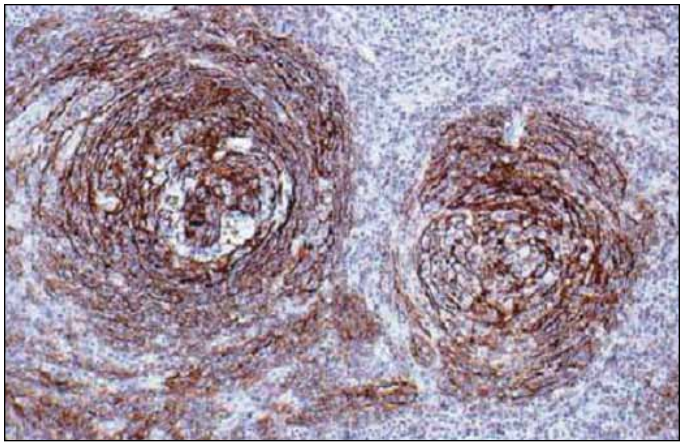

Fig. 3. Immunocytochemical feature of the specimen: Germinal centres are surrounded by tiny lymphocytes named onionskin-like appearance (original magnification ×100) (Case 1).

While CD usually occurs in HIV-positive patients, HIV can create a predisposition to CD. In these patients, the disease is usually multicentric and progressive, and the average survival is 14 months.[9]

Multicentric CD and Non-Hodgkin lymphoma (NHL) accompany each other; however, whether they exist together or multicentric CD progresses towards NHL is not certain. In research on HIV-positive CDisease infected patients, there was a progress towards NHL with a 23% ratio.[10]

CD can be seen as a part of POEMS syndrome (polyneuropathy, organomegaly, endocrinopathy, monoclonal gammopathy and skin changes). POEMS syndrome is a underlying plasma cell dyscrasia related paraneoplastic syndrome and CD is one of the major criteria in the diagnosis of this disease.[11]

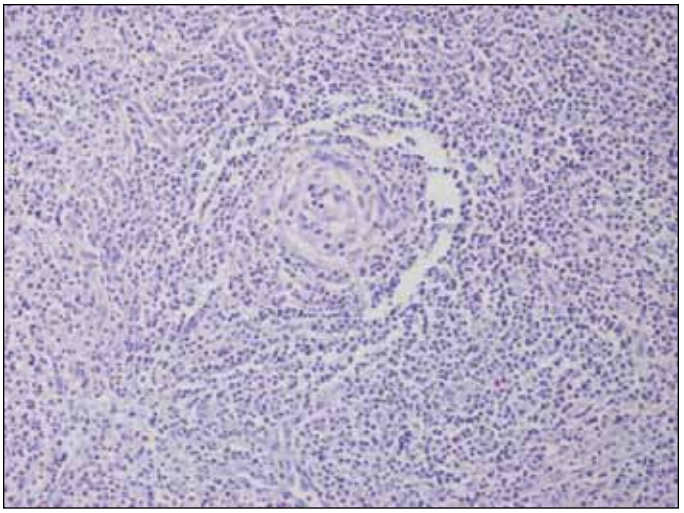

Fig. 4. Pathological view of hyaline vascular type Castleman's disease (hematoxylin and eosin, original magnification ×100) (Case 2).

Paraneoplastic pemphigus is an autoimmune mucocutaneous disease which can imitate dermatologic diseases, like pemphigus vulgaris, erythema multiforme, erosive lichen planus and associated with lypmhocytic originated diseases. It can be associated with CD.[12] Secondary amyloidosis cases connected to this disease were reported as part of the inflammatory progress in CD etiopathogenesis.[13-15] Secondary amyloidosis is more frequent especially in multicentric CD.[14,15] Biopsy is obligatory in diagnosis of the disease. Excisional biopsy is neccesary because cell samples taken in thin needle aspiration biopsy have normal appearance and may hinder the diagnosis.[8] There are different treatments because of its rare occurance and heterogenity. Surgical excision is enough in unicentric CD regardless of its hystopathologic features. Radiotherapy can be considered on some patients.[16] Our patients were reported as unicentric hyaline vascular type CD and no other treatment was considered. The patients' occasional abdomen pain recovered during the postoperative period. Even though surgical excision of affected tissues can be curative because multicentric CD usually progresses symptomatically, it is temporary and patients generally need systematic treatment. Through glucocorticosteroids moderates the symptoms and improves laboratory findings, it is generally used temporarily because of its fatal risks in long-term use.[17] Tocilizumab is a monoclonal antibody to the human IL-6 receptor and it has been used with some success.[18,19] It is a monoclonal antibody which develops against CD20 antigen found in rituximab HHV-8 infected lymphoid cells. There are studies about its long-term remission when used in treatment.[20,21] It is a drug that also has antiangiogenic effects on the thalidomide and it is used for some diseases like multiple myeloma. There are successful studies in CD.[22,23] Antiviral drugs that are effective against HHV-8 are also used to treat CD. Also, there are studies indicating symptom recession with ganciclovir and valganciclovir.[24,25]

Chemotherapy seems to be the best treatment in multicentric patients. There is success in the use of CHOP (cyclophosphamide, doxorubicin, vincristine, prednisone),[26] together with cyclophosphamide and corticosteroids,[27] and the use of single agents like vinblastine[28] or etoposide.[29] However, we should be careful about the side effects of chemotheraphy on HIV-positive patients.

Conclusion

CD is rare. There can be delay in its diagnosis especially because the unicentric type is asymtomatic; diagnosis can only be confirmed upon excision of the mass. Diagnosis can be made earlier because the multicentric type gives systemic findings, yet there can be difficulty in treating HIV-positive patients. There is a need for more research to find the best treatment method.

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