Parapharengeal Unicentric Castleman Disease With Nephrotic Syndrome

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Castleman disease (CD) is a rare lymphoproliferative disorder, first described in 1956. This case report describes a 27-year-old man with hyaline vascular unicentric CD, first presented with edema and hypertension. On initial evaluation for edema, 24-hour urine collection revealed 8200 mg/24 h protein excretion. Pathologic examination of the kidney specimen showed diffuse mesangial lesions with segmental subepithelial deposition. On follow-up for nephrotic syndrome, the patient experienced a feeling of a mass in his pharynx and deterioration of previous snoring, documented by neck magnetic resonance imaging. Pathology report of the excisional biopsy showed CD. Treatment with corticosteroids and partial excision can be considered as an alternative to surgery for unresectable unicentric CD. The 5-year follow-up showed that this strategy could lead to remission.

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Case Report

INTRODUCTION

Giant lymph node hyperplasia or angiofollicular lymph node hyperplasia, also known as Castleman disease (CD), is a highly heterogeneous clinicopathological entity belonging to the lymphoprolifrative disorders, originally described in 1956 by Castleman and coworkers.[1] Castleman disease can be classified as unicentric and multicentric, based on the clinical and radiological findings; as hyaline vascular, plasmacytic, and mixed cellularity variety, based on histopathology; and based on the human immunodeficiency virus seropositivity status of the patient. All the three factors need to be taken into account in the assessment of patients.

Unicentric CD manifests as a solitary mass, which may be well circumscribed or infiltrative. It is associated with lymphadenopathy confined to 1 lymph node or nodal area,[2] it tends to affect nodal groups above the diaphragm, but can also involve cervical, axillary, and abdominal lymph nodes.[3] It is not associated with human herpesvirus 8 infection and is generally curable with surgical resection.[4]

This case report describes a 27-year-old man with hyaline vascular unicentric CD and nephrotic syndrome, whose mass location (pharyngeal region) was unusual, making it unresectable.

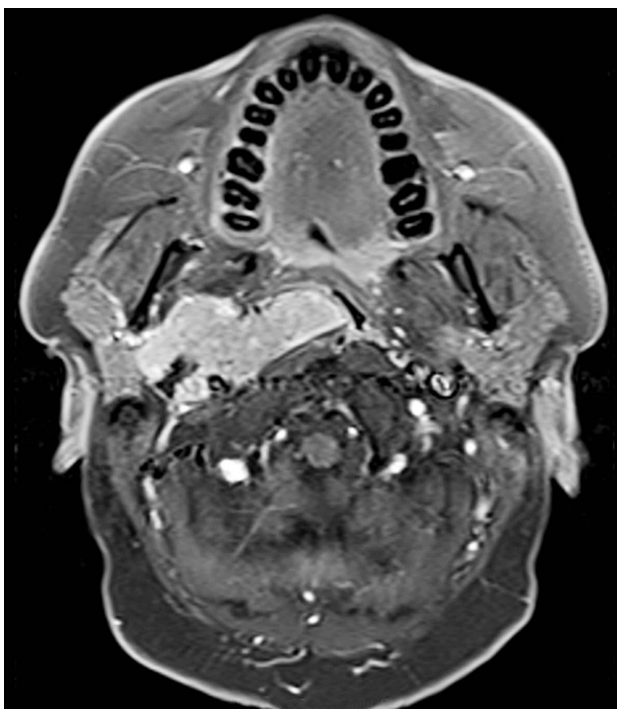
CASE REPORT

A 25-year-old man first presented with a complaint of edema. He also mentioned to history of a 5-year hypertension for the etiology of which urine vanillylmandelic acid and matanephrin were evaluated and were all within normal limits. Doppler ultrasonography was also performed showing no remarkable finding. No history of cardiovascular problem or hepatic disease was mentioned.

On routine physical examination, no abnormality was detected. Routine laboratory investigations were performed, and apart from thalassemia minor and hypoalbuminemia, no abnormality was reported (serum creatinine, 1 mg/dL; serum cholesterol, 168 mg/dL; serum triglyceride, 122 mg/dL; low-density lipoprotein cholesterol, 91 mg/dL; and serum albumin, 3 g/dL). A 24-hour urine collection revealed proteinuria (8200 mg/d).

Kidney biopsy specimen consisted of 25 glomeruli showing diffuse mesangial lesion with segmental subepithelial granularity and thickening of glomerular capillary wall. Immunofluorescent study showed segmental granular deposition of immunoglobulins A, G, and M and complement C3 in mesangium and glomerular basement membrane. The laboratory investigations for exclusion of the other etiology of secondary nephrotic syndrome, such antinuclear antibody, complement C3, hepatitis B surface antigen, and anti-hepatitis C virus were within normal limit. To control hypertension and proteinuria, enalapril, 10 mg, twice daily, and atenolol, 50 mg, once daily, were initiated. However, proteinuria was not decreased.

On follow-up, the patient experienced a feeling of a mass in his pharynx and deterioration of previous snoring, and then a neck magnetic resonance imaging (MRI) study revealed a mass (Figure). On the MRI images, the mass was located within the right parapharyngeal space, displacing the parapharyngeal fat anteriorly. After failure of 2 attempts for needle aspiration, surgical excision biopsy was done, and because the mass was not totally resectable, it was partially resected and sent for histopathological examination. Intra-operative and postoperative period were uneventful.



Neck magnetic resonance imaging revealed a mass within the right parapharyngeal space.

Histopathology examination showed hyaline vascular variant. The patient was evaluated for human immunodeficiency virus infection twice, both of which reported negative. Since the mass was unresectable, prednisolone, 1.5 mg/kg, was initiated and tapered off after 3 months. Although the follow-up MRI after 5 years revealed no change in the mass size, proteinuria decreased after medical treatment and patient went into remission.

DISCUSSION

Castleman disease is an uncommon lymphoproliferative disorder defined as a localized hyperplasia of lymphoid follicles with and without a germinal center formation and marked capillary proliferation with endothelial hyperplasia.[5] Diagnosis requires a histopathological examination of involved lymph node structures. The histological diagnosis is divided into 3 basic types of hyaline vascular, plasma cell, and mixed variant.[6] Although the pathogenesis of CD is entirely unknown, several investigators consider the localized plasma cell form to be an inflammatory response to an unknown antigenic stimulus. The plasma cells in the lymph node would represent an exuberant B-cell response that results in the local production of high levels of antibodies.[7]

Patients with the hyaline-vascular type of CD are usually asymptomatic, but they may complain of symptoms caused by the compression of adjacent structures or may present with a palpable mass. Systemic manifestations are commonly seen in the plasma cell type and include fever, anemia, and hyperglobulinemia.[8] Renal manifestations, such as proteinuria, hematuria, and renal dysfunction, are common in CD; however, nephrotic syndrome rarely occurs.[9] Nephrotic syndrome is a very rare complication of CD and only a few cases have been described.[10-13]

Also, the most common site of CD is the mediastinum (approximately 70%). Other sites of occurrence include the axilla, retroperitoneum, mesentery, vulva, pancreas, pelvis, and neck.[14,15] Fewer than 10% of cases arise in the head and neck.[16,17] Our case report is that of a male with unicentric CD complicated with nephrotic syndrome, the parapharyngeal location of the mass and nephrotic syndrome both make our patient a rare case.

Complete surgical excision is the treatment of

choice for CD in the head and neck, with a 100% control rate for the hyaline-vascular type.[18] In our case, the unusual location of the mass made it unresectable. Other treatment options include preoperative embolization, partial resection, radiation, chemotherapy, or a combination of these with varying results.[19] In our case, before the diagnosis of CD, treatment with angiotensin-converting enzyme inhibitors was initiated to decrease the proteinuria, but it was unsuccessful. After using prednisolone for several months, proteinuria decreased significantly.

Castleman disease is a rare entity that requires a high index of suspicion, especially in the context of nephrotic syndrome management. The treatment of CD and the nephrotic syndrome are controversial issues, based essentially on case reports, since controlled clinical studies are lacking because of the rarity of the disease.[20] In some reports on unicentric forms, it was shown that the surgical removal of the lymph node mass was curative,[7,21] and it led to the regression of the nephrotic syndrome.[7] It seems that medical therapy and partial excision can be considered as an alternative to complete resection for an unresectable unicentric mass.

CONFLICT OF INTEREST

None declared.

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