Castleman's Disease Presenting as Mesenteric Tumour

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Abstract

Castleman's disease (akaangiofollicular lymph node hyperplasia) is a rare disorder characterised by enlargement of lymph node.The common sites include lymph nodes of mediastinum, lung, neck, axilla, pelvis and retroperitoneum, but mesenteric Castleman's disease is rarely seen. Patients can be asymptomatic orcan havenon-specific symptoms like fever, night sweats, loss of body weight. Surgical excision of suspicious mass followed by immunohistochemistry of the specimen usually helps in diagnosis. We report the case of a 37 years old lady with abdominal mass which turned out to be Castleman disease of mesentery.

Keywords - *Castleman'sdisease, Mesenteric tumors*

INTRODUCTION

Mesenteric tumors encompass a wide variety of lesions which can be benign or malignant including gastrointestinal stromal tumours (GIST), lymphomas, desmoid tumours, leiomyosarcomasetc.[1-3]But it is rare for Castleman's disease to present as abdominal mass.[4] The disease is named after Dr Benjamin Castleman who first described this disorder in 1956. It is a lymphoproliferative disorder characterised by enlargement of a subset of lymph nodes at one place or multiple places in the body. The diagnosis is pathological based on biopsy and immunohistochemistry (IHC). There are 3 distinct clinical entities described in literature—unicentric Castleman disease (*UCD*), human herpesvirus 8 associated multicentric Castleman disease (*HHV-8-associated MCD*), and idiopathic multicentric Castleman disease (*iMCD*). [6,7,12]Of all the 3 known subtypes of CD, unicentric disease is the most commonly seen and has complete cure following surgical resection. In our patient, the histopathology was suggestive of UCDof hyaline vascular type.

CASE

37 years old lady presented to out-patient department with complaints of abdominal painand palpable lumpfor 1 month. On per abdomen examination a 7x6 cm, firm, lobulated mass was felt in epigastric region extending into umbilicaland left hypochondriac region. Contrast enhanced CT scan was suggestive of large tumourapproximately 13x9cmin size, with good vascularity arising from the mesentery of small bowel**(Figure 1)**.It was reported as GIST or lymphoma of small bowel. Fine needle aspiration cytology was attempted to know exact nature of mass, but it turned out to be inconclusive.

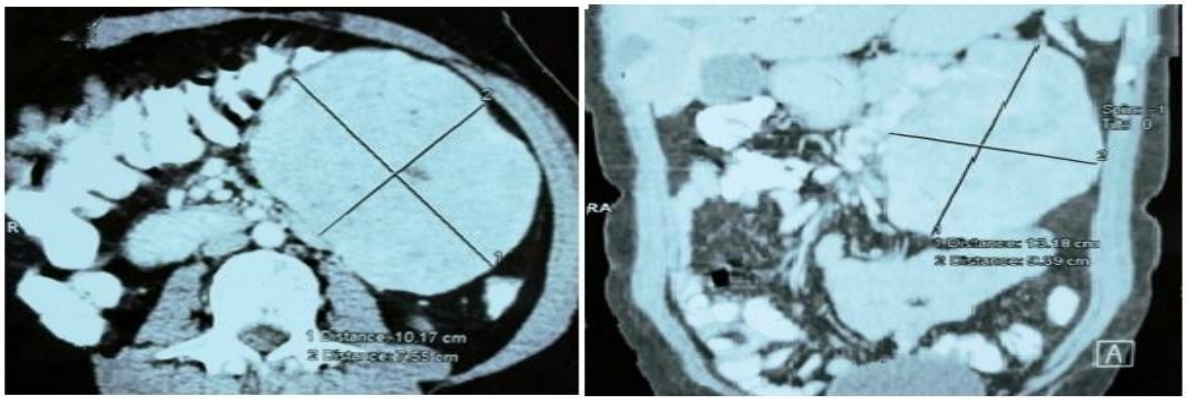

Figure 1: Contrast-enhanced CT showing intra-abdominal mass lesion

As patient was symptomatic for this mass exploratory laparotomy was planned. Intra-operatively, the tumour was found to be arising from the mesentery of jejunum immediately distal to the ligament of Treitz. It was an encapsulated, highly vascular and adherent to jejunum near duodenojejunal flexure. The tumour

was resected and sent for histopathological examination. Grossly, it was 13.5x9.5x8 cm, encapsulated, firm, nodular, with congested blood vessels. Cut section showed grey white to grey brown, soft to firm with focal grey tan areas. Microscopically, it showed multiple varying sized lymphoid nodules throughout the lesion containing small lymphocytes & central hyalinization. On immunohistochemistry, lymphoid nodules were CD20 positive whereas interfollicular lymphocytes were CD3 positive**(Figure 2)**. Based on these findings, a diagnosis of Castleman disease was made.Post-operative period was uneventful, and patient was discharged. On follow up, the patient was asymptomatic and responding well and was asked to come again after 3 months.

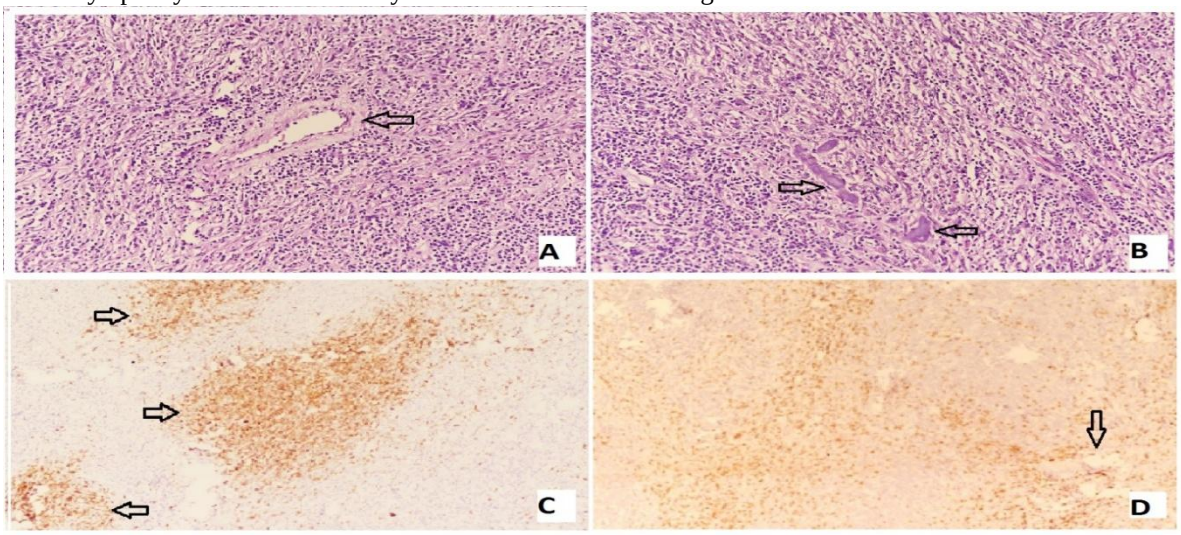

Figure 2(A): Central vessel surrounded by mature looking lymphocytes and few plasma cells(H&E, 100X);**(B):** Areas of hyalinization surrounded by lymphocytes (H&E, 100X); **(C):**CD 20 positivity in follicular area (CD20, 200X); **(D):** CD 3 positivity in interfollicular area(CD3, 100X).

DISCUSSION

Mesenteric tumors are clinically uncommon and include a wide variety of pathologies. They can be cystic or solid, and benign or malignant, affecting all age groups. Clinically, these tumors present as abdominal pain with or without a palpable mass. Advanced lesions may present with intestinal obstruction and metastasis. Benign mesenteric tumors include lymphangiomas, mesotheliomas, hamartomas, benign stromal tumours, desmoids,[2] mesenteric panniculitis, lipomas, sarcoidosis, Castleman disease, and reactive inflammation of mesenteric nodes secondary to bacterial infection, mycobacterial infection, and histoplasmosis. Malignant tumors of mesentery include leiomyosarcoma,GIST, lymphoma, metastatic tumour deposits from hollow viscus & pelvic organs, and carcinoid tumors.[3-5]

Castleman Disease is a rare disorder with a prevalence rate of less than 1/100,000 population[6]however, we could not find the exact incidence of the disease as few cases have been documented. It can occur anywhere along the lymphatic system, but the most common site of occurrence is mediastinum (70%).[7] Extra-thoracic presentation is even rarer with documented cases in neck, axilla, mesenteric and pelvis.The diagnosis is usually made on the basis of imaging studies ultrasonography, CT and MRI. Suspicious lesions are biopsied to evaluate the origin of tumourand its malignant potential. Subsequently, the disease can be managed medically or surgically. However, in our patient on imaging it suspected to be lymphoma or GIST and it only after the histopathological examination of the resected specimen that diagnosis of Castleman's disease was established.Castleman's disease is a rare pathological diagnosis in patients with lymph node enlargements. It is classified based on regional lymph node involvement & presence of a known cause. There are 3 distinct clinics entities of CD.

1. **Unicentric Castleman disease (*UCD*)**- It is the most common subtype of *CD* with median age of presentation at 35 years and a slight female preponderance.[8] One or more enlarged lymph nodes are present at only one site. Symptoms are mild, organ dysfunction is less common, and surgical removal is the treatment of choice.[8,9] CT shows single or multiple enlarged lymph nodes in a single region, which are 18F- FDG avid on positron-emission tomography (PET).[10]Occasionally, due to large size or proximity to bronchus & major vessels, tumor cannot be removed completely. In these cases, chemotherapy, immunosuppressive medications, catheter embolization of blood vessels supplying the lymph node, and/or radiation therapy may be used to shrink the involved lymph nodes. Most people with *UCD* who undergo complete surgical resection of enlarged lymph nodes achieve long-term disease-free survival, with an observed 10-

year mortality of 4% in the largest case series to date.[8]

2. **Idiopathic multicentric Castleman disease (*iMCD*)**- Lymph node enlargement occurs at multiple sites and is idiopathic. Compared to *UCD*, symptoms are more severe. Treatment is primarily medical with immunosuppressants and chemotherapy.[9]*iMCD* can be associated with ***POEMS syndrome***(polyneuropathy, organomegaly, endocrinopathy, monoclonal protein, skin changes syndrome), ***TAFRO syndrome*** (thrombocytopenia, anasarca, myelofibrosis, renal dysfunction, and organomegaly).[11]Further, there is increased risk of solid tumours, leukaemia's and Lymphocytic interstitial pneumonitis.[11,12]Diagnostic Criteria for *iMCD*include presence of 2 major and 2minor criteria (one of which is an abnormal lab test). Major criteria are: (1) Radiologic imaging demonstrating enlarged lymph nodes in multiple regions;[11](2) Microscopic analysis of lymph node biopsy consistent with *iMCD.*Minor criteria include - elevated CRP and/or ESR, anaemia, abnormal (low or high) platelet counts, low albumin levels, elevated creatinine, hypergammaglobulinemia, flu-like symptoms, enlargement of the liver and/or spleen, fluid accumulation (oedema, ascites, pleural effusions), skin findings such as cherry hemangiomas or violaceous papules, lymphocytic interstitial pneumonitis. Siltuximab is the drug of choice in patients with *iMCD.*[13]
3. **Human herpes virus 8 associated multicentric Castleman disease (*HHV-8-associated MCD*)** - Enlarged lymph nodes at multiple sites along with human herpes virus 8 (*HHV-8*, also known as *Kaposi sarcoma-associated herpes virus*) infection is present. Commonly seen in patients with HIV infection. Presentation islike *iMCD.* Treatment is primarily medical usingRituximab &Valganciclovir.[14]

Histologically, Castleman's disease can be classified into;(a) **Hyaline vascular** which shows regressed germinal centres, follicular dendritic cell prominence or dysplasia, hypervascularity in interfollicular regions, sclerotic vessels, prominent mantle zones with an "onion-skin" appearance. It is more commonly seen with *UCD*; (b) **Plasmacytic** – It shows increased number of follicles with large hyperplastic germinal centres and sheet like plasmacytosis (increased number plasma cells). More commonly seen with *iMCD;* (c) **Hypervascular-** It is similar to hyaline vascular type but seen in *iMCD* rather than *UCD.* (d) **Mixed**- Combination of hyaline vascular, plasmacytic, and/or hypervascular features.

CONCLUSION

To summarise, Castleman's disease is a rare lymphoproliferative disorder which can involve single or multiple group of lymph nodes. *UCD* is the most common subtype & has the best prognosis with complete cure following surgical excision. In cases of incomplete tumour removal, monoclonal antibody can be used.

CONFLICT OF INTERESTS

None.

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