

Unicentric Castleman's Hyaline Vascular Disease

Chik Ian, MD* Nur Ayub bin Mohd Ali, MBCh BAO (NUI)** Mohd Ramzisham bin Abdul Rahman, MBChB (Sheffield)*** Joanna Ooi Su Min, MD****

Castleman's disease was named after its discoverer and has been known since fifty years ago. It is a rare, poorly known disease in terms of its pathogenesis. We report a case of unicentric hyaline vascular type of Castleman's disease and review of its management and prognosis.

-
- * Medical Doctor - Dalhousie University
Medical Officer
Cardiothoracic Unit
- ** Medical Doctor -General Surgery (UKM)
Cardiothoracic Registrar
Cardiothoracic Unit
- *** Mohd Ramzisham bin Abdul Rahman
Consultant Cardiothoracic Surgeon
Cardiothoracic Unit
- **** Consultant Anesthesiologist
Anesthesia and Intensive Care Unit
Universiti Kebangsaan Malaysia Medical Centre (UKMMC)
Jalan Yaacob Latif, Bandar Tun Razak, Cheras
Kuala Lumpur, Malaysia
Email: drramzi@ymail.com

Castleman's disease (CD) is named after Benjamin Castleman, who first described it in 1956¹. It is also known as angiofollicular hyperplasia and is a non-clonal disease of the lymph nodes. Castleman's disease is classified into unicentric or multicentric, hyaline vascular, or plasma cell variant, which is further subdivided by the presence of Human Herpes virus 8¹.

Most patients are asymptomatic, especially in unicentric. Unicentric patients may notice an enlarged lymph node and sometimes, would have symptoms from compression of the enlarging nodes. However, multicentric patients have fever, night sweats, weight loss and malaise.

The aim of this report is to present a case of unicentric Castleman's hyaline vascular disease, which was managed surgically

THE CASE

A fifty-five-year-old female suffering from diabetes mellitus type 2, hypertension and dyslipidemia, had initially presented to the clinic with 2-week history of productive cough. Prior to the cough, the patient complained of low-grade fever and coryza. Her physical examination was essentially normal except for some minimal bilateral basal crepitations on

auscultation of her lungs. No enlarged, palpable lymph nodes were found. A chest x-ray revealed an anterior mediastinum mass, see figure 1.



Figure 1: Anterior Mediastinal Mass

The patient was investigated for tuberculosis, which was negative. CT thorax/abdomen revealed 5.2x4.9x5.6 cm anterior mediastinal mass with some calcifications, see figure 2. Two attempts to biopsy the mass under CT guidance were inconclusive. The patient was referred for a video-assisted thoracoscopic biopsy (VATS).



Figure 2: CT Showing Anterior Mediastinal Mass

A median sternotomy and excision of the anterior mediastinal mass was performed. Intraoperatively, a lobulated solid cystic tumor 10x8 cm, between the arch of the aorta and the root of the lung, left lateral side of the heart, surrounding the left phrenic nerve and the left inferior mammary artery. Postoperatively, the patient recovered well with no complications. The histopathology features were consistent with Castleman's disease of the hyaline vascular variant. The right thymus gland with regional lymph nodes showed sinus histiocytosis, but no malignancy.



Figure 3: The Excised Tumor

DISCUSSION

CD is not a well-studied disease due to its rarity. However, it has two etiological theories. The first theory is a viral trigger, leading to chronic antigenic stimulation, causing a reactive lymphoid hyperplasia, such as Human Herpes virus 8 (HHV8) and the human immunodeficiency virus (HIV). The second theory is a disturbance in the growth, which some have attributed to interleukin 6 (IL 6). IL 6 causes B cell proliferation and hence, lymphoid hyperplasia, and at the same time, increased vascular endothelial growth factor (VEGF) leading to angiogenesis and capillary proliferation with endothelial hyperplasia.

In considering unicentric CD, toxoplasma lymphadenitis, HIV lymphadenitis, follicular hyperplasia and lymphoma should be ruled out; in multicentric CD, rheumatoid arthritis, plasmacytoma, and lymphoma may mimic the disease. Hematological investigation and histopathology of the excised lymph nodes would settle the diagnosis.

In this case, the diagnosis was made after the excision of the tumor. Most CDs have vague symptoms, but it should be kept in mind as one of the differential diagnosis of enlarged lymph nodes. It is important to differentiate between unicentric and multicentric CD, due to the difference in prognosis, management and follow-up treatment.

The recurrence rate of a patient with CD is very dependent on its histology and unicentric or multicentric. Complete resection of unicentric CD could lead to disease-free survival rate of 90 percent for three years and 81 percent for five years².

Both Keller et al and Talat et al suggest that unicentric CD does not need further systemic therapy^{2,3}. However, as with other malignancies, the patient needs regular follow-up. In a case series by Wilbur et al, there was a report of one patient who developed lymphoma⁴. In the same case series, there was coincidental diffuse, large cell malignant lymphoma of B-cell origin.

Regular follow-up is mandatory including FDG-PET CT and hematological investigations (IL-6, C-reactive protein, serum free light chain assay, and quantitative immunoglobulins).

CONCLUSION

Castleman's disease is a rare and poorly understood entity. However, in patients that present with enlarged lymph node, Castleman's disease should be included as the differential diagnosis. Further study of its pathogenesis is required to understand the best treatment.

Author Contribution: All authors share equal effort contribution towards (1) substantial contribution to conception and design, acquisition, analysis and interpretation of data; (2) drafting the article and revising it critically for important intellectual content; and (3) final approval of manuscript version to be published. Yes.

Potential Conflicts of Interest: None.

Competing Interest: None.

Sponsorship: None.

Submission Date: 19 March 2015. **Acceptance Date:** 13 July 2015.

Ethical Approval: Approved by Cardiothoracic Unit, Universiti Kebangsaan Malaysia Medical Centre, Malaysia.

REFERENCES

1. Castleman B, Iverson L, Menendez VP. Localized Mediastinal Lymph Node Hyperplasia Resembling Thymoma. *Cancer* 1956; 9(4):822-30.
2. Talat N, Belgaumkar AP, Schulte KM. Surgery in Castleman's Disease: A Systematic Review of 404 Published Cases. *Ann Surg* 2012; 255(4):677-84.
3. Keller AR, Hochholzer L, Castleman B. Hyaline-Vascular and Plasma-Cell Types of Giant Lymph Node Hyperplasia of the Mediastinum and other Locations. *Cancer* 1972; 29(3):670-83.
4. Bowne WB, Lewis JJ, Filippa DA, et al. The Management of Unicentric and Multicentric Castleman's Disease: A Report of 16 Cases and a Review of the Literature. *Cancer* 1999; 85(3):706-17.