Texila International Journal of Public Health
ISSN: 2520-3134
DOI: 10.21522/TIJPH.2013.12.04.Art019

Granulomatous Cervical Lymphadenopathy – A Case Series

A. Karthick Ramalingam*, N. Balaji
Department of General Medicine, Sree Balaji Medical College and Hospital, Chennai, India

Abstract

In this article, some of the common types of granulomatous cervical lymphadenopathy are described. They can be classified as infective and non-infective. Non-infectious include sarcoidosis and sarcoid-like reactions. Their etiology is unknown but they have a better prognosis. Infectious include various organisms and some of the common organisms include Tuberculosis, Syphilis, Tularemia, Cat Scratch Disease, Brucellosis and fungal infections. So an accurate diagnosis is needed with pathological and histological evidence for prompt treatment. Here, we histopathologically describe the three representative types of granulomatous cervical lymphadenopathy namely Tuberculosis, Sarcoidosis and Kikuchi Disease.

Keywords: *Granulomatous lymphadenitis, Non-suppurative, Sarcoidosis, Suppurative, Tuberculous lymphadenitis.*

Introduction

The immune system's lymph nodes are oval-shaped organs that are located all throughout the body and connected by lymphatic veins [1]. Lymphadenopathy refers to any kind of abnormalities involving the size, consistency, or quantity of lymph nodes. Granulomatous lymphadenopathy is a specialized immune response against various inflammatory insults like infections, autoimmunity and malignancy [2].

Common causes of cervical lymphadenopathy can be classified into suppurative and non-suppurative (TB, HIV, HSV, EBV, CMV, Toxoplasmosis), autoimmune disease (Sarcoidosis, SLE, Kawasaki disease) and malignancy (Hodgkin's Lymphoma, Non-Hodgkin's Lymphoma, Metastasis) [3]. We need histological, microbiological and immunohistochemistry evidence to establish the definitive diagnosis of cervical lymphadenopathy.

Case 1

A 32-year-old woman presented with chronic oedema on the left side of her neck that had persisted for the previous three months. The patient has been experiencing occasional low-grade fever and soreness over the swelling for the previous three months. Her brother had pulmonary tuberculosis. She did not have any co-morbid illness. On Local examination, Multiple matted cervical lymphadenopathy was noted at levels II and III on the left side. USG Neck and CT Chest were done and showed Multiple (12 - 15) enlarged left cervical lymph nodes at levels II, and III and a posterior group of cervical lymph nodes (Figure 1). The largest measuring 12*11 mm was seen. Fine needle aspiration was done and suggestive of hyperplasia of the lymph node. Excision biopsy was performed and showed Necrotising Granulomatous Inflammation with Acid Fast Bacilli- Consistent with Mycobacterial Lymphadenitis [4,5]. The patient was treated with antituberculous treatment. The patient completed 6 months of

Received: 12.07.2024 ***Accepted: 23.08.2024*** ***Published on: 27.12.2024***
****Corresponding Author: balajinpgm1@gmail.com***

treatment and cervical lymph nodes were completely resolved.

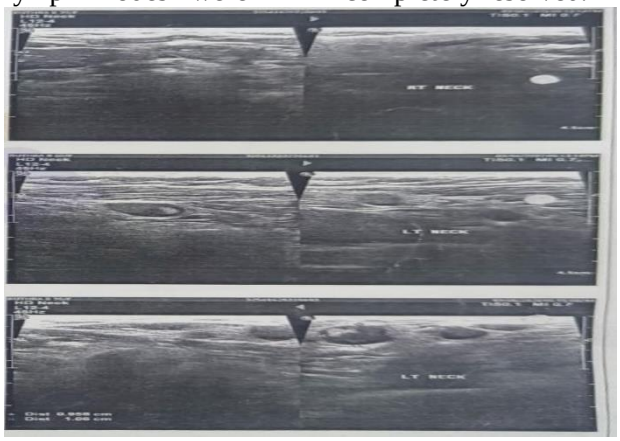

Figure 1. USG Neck showing Enlarged Cervical Lymph nodes.

Case 2

A 45-year-old woman made an appointment because she had been experiencing swelling on the right side of her neck for the last two months. She has a history of not wanting to eat and underweight. There is no prior record of fever. The patient had similar complaints in January 2022 and an excision biopsy was done and diagnosed to have a Tuberculous lymph node [4,5]. The patient also had a history of Seizures at that time for which an MRI brain was done and diagnosed with Cerebral Tuberculoma (Figure 2). For which patient was treated with antituberculous treatment for 1 year. A repeat MRI was done which showed there was a decrease in the size and number of tuberculoma lesions as compared to the previous MRI and lymph node sizes were reduced.

Now presented with the above complaints and on examination Multiple, Non-tender, Discrete lymph nodes were present in the Cervical and Axillary region (Maximum size of 4cm*3cm). On Systemic examination, the patient had Hepatomegaly and Splenomegaly. On suspecting Sarcoidosis, Angiotensin-converting enzyme levels, Anti Nuclear Antibody test and IgG4 were done. Angiotensin Converting Enzyme levels were elevated (327.0). Anti Nuclear Antibody was weakly positive. Serum IgG4 was normal (0.32) and diagnosed to have Sarcoidosis [5,6]. The patient was started on Steroids. On follow-up, Lymph node sizes were reduced and the patient was symptomatically better.

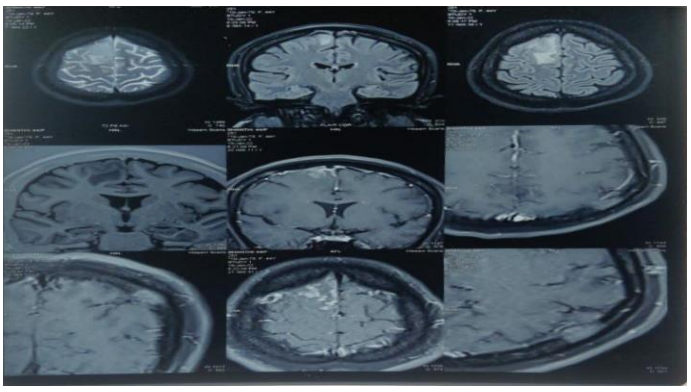

Figure 2. MRI Brain showing Cervical Tuberculoma lesions

Case 3

A 21-year-old female came with complaints of multiple swellings on both sides of the neck for the past 1 month. The patient also had symptoms of intermittent fever and loss of appetite in the last 1 month. History of cough for the past 2 days. The patient has been

diagnosed with hypothyroidism for the last 8 years but has not been taking medicine regularly. On examination, the Patient had pallor and Multiple Firm, Matted lymph nodes were palpable in left level I, II, III and V in the cervical region (Maximum size of 2cm*2cm) and right level II, III and V in the cervical region (Maximum size of 1cm*1cm). USG Neck was done and showed B/L Cervical lymphadenopathy. Sputum Acid Fast Bacilli and Gene Xpert were done and found to be negative. Sputum culture sensitivity showed streptococci growth. CT-CHEST was done and showed features of Active Pulmonary Infection and an enlarged prevascular lymph node(1.2cm*1cm) on the left side. Fine Needle Aspiration from the right cervical node was done and showed features of Reactive Lymphadenitis. For confirmatory diagnosis, an Excision biopsy was done and showed Necrotizing Lymphadenitis in favour of KIKUCHI Disease [8]. The patient was started on NSAID and the size of the lymph nodes was decreased. On follow-up, the Patient still had some symptoms of intermittent fever and neck swellings and hence started on steroids and the symptoms were resolved completely.

Discussion

1. Mycobacterial lymphadenitis is still a common and often poorly treated disease. Tuberculosis remains a significant public health concern, despite a steady decline in its frequency. While pulmonary illness is the most common symptom of Mycobacterium tuberculosis, it may also appear in other parts of the body. It may be challenging to detect extrapulmonary tuberculosis (TB)[6]. In cases like ours, a lymph node excision biopsy is necessary for a definitive diagnosis.
2. A granulomatous illness affecting many systems is known as sarcoidosis. Sarcoidosis may manifest as lymphadenopathy in the cervical region without the presence of mediastinal or pulmonary illness. Sarcoidosis is likely to be the cause if HPE reveals non-caseating granulomas with epitheloid macrophages. Consistent clinical and radiographic signs are necessary for the diagnosis of isolated cervical lymph node sarcoidosis [7]. Systemic sarcoidosis may present later in life, so it's crucial to keep an eye out for it in this situation.
3. Japan has the world's highest prevalence of Kikuchi illness. It usually strikes young adults. Some characteristics of the disease's clinical course are particular, while others are more generic. Although other groups of lymph nodes may potentially be implicated, the specific case is unilateral cervical lymphadenopathy [8]. Common symptoms include a high temperature with no apparent cause and nocturnal sweats. All of the aforementioned symptoms were present in our case as well. Biopsy and high-power electron microscopy (HPE) confirm the diagnosis by revealing necrotizing lymphadenitis along with proliferating histiocytic, T lymphocyte, and immunoblast cells. As a rule, antipyretics and analgesics are prescribed.

Conclusion

An inflammatory, infectious, benign, or malignant lump in the neck might be a sign of any number of diseases. So, to get a definitive diagnosis and start treating the illness right away, a thorough examination and diagnostic procedures are required. The optimal course of therapy for achieving long-term disease-free survival free of recurrence depends on the specifics of the condition.

Conflict of Interest

The is no conflict of interest in the present study.

Acknowledgements

The authors would like to thank Sree Balaji Medical College and Hospital for helping to carry out the study.

References

[1]. Chang KL, Arber DA, Gaal KK, Weiss LM: 2006, Lymph nodes and spleen. In : Silverberg's principles and practice of surgical pathology and cytopathology.4th ed, Philadelphia, Churchill Living Stone, pp. 508-607.

[2]. Gherardi GJ: 1950, Localized lymph node sarcoidosis associated with carcinoma of the bile ducts ; report of a case. AMA Arch Pathol 49:163-168.

[3]. Dickson PV, Davidoff AM: 2006, Malignant neoplasms of the head and neck. Semin Pediatr Surg.; 15:92–8. doi: 10.1053/j.sempedsurg.2006.02.006. [PubMed]

[4]. Gosche JR, Vick L: 2006, Acute, subacute, and chronic cervical lymphadenitis in children. Semin Pediatr Surg; 15:99–106. doi: 10.1053/j.sempedsurg.2006.02.007.

[5]. Moss RL, Skarsgard ED, Kosloske AM, Smith BM. 2000, Case studies in pediatric surgery. Philadelphia, PA: McGraw Hill: pp. 258–65.

[6]. Shamberger RC, Holzman RS, Griscom NT, Tarbell NJ, Weinstein HJ, Wohl ME. 1995, Prospective evaluation by computed tomography and pulmonary function tests of children with mediastinal masses. Surgery; 118:468–71. doi: 10.1016/S0039-6060(05)80360-5. [PubMed]

[7]. Tracy TF, Muratore CS. 2007, Management of common head and neck masses. Semin Pediatr Surg;16:3–13. doi: 10.1053/j.sempedsurg.2006.10.002.

[8]. Kikuchi M. 1972, Lymphadenitis showing focal reticulum cell hyperplasia with nuclear debris and phagocytosis. Nippon Ketsueki Gakkai Zasshi;35:378–80.

[9]. James DG, Neville E, 1977, Pathobiology of sarcoidosis. Pathobiol Annu 7:31-63.

[10]. Ioachim HL, Medeiros LJ: 2009, Sarcoidosis Lymphadenopathy. In: Ioachim's Lymph node pathology. 4th ed, Philadelphia, Lippincott Williams & Wilkins, pp. 203-212.

[11]. Ota M, Amakawa R, Uehira K, Ito T, Yagi Y, et al.: 2004, Involvement of dendritic cells in sarcoidosis. Thorax 59:408-413.

[12]. Rosen Y, Vuletin JC, Pertschunk LP, Silverstein E: 1979, Sarcoidosis : from the pathologist's vantage point. Pathol Annu 14 (Pt 1):405439.

[13]. Brincker H: 1986, Sarcoid reactions in malignant tumours.Cancer Treat Rev 13:147-156.

[14]. James DG: Editorial:1973, Modern concept of sarcoidosis. Chest 64: 675-677.

[15]. Kojima M, Nakamura S, Fujisaki M, Hirahata S, Hasegawa H, et al.: 1977,Sarcoid-like reaction in the regional lymph nodes and spleen in gastric carcinoma : a clinicopathologic study of five cases. Gen Diagn Pathol 142:347-352.

[16]. Virgili A, Maranini C, Califano A: 2002, Granulomatous lesions of the homolateral limb after previous mastectomy. Br J Dermatol 146: 891-894.

[17]. Gregorie HB Jr, Othersen HB Jr, Moore MP Jr: 1962, The significance of sarcoid-like lesions in association with malignant neoplasms. Am J Surg 104:577-586.

[18]. Yamamoto T, Tateishi H, Nishimura Y, Watanabe M, Ukyo S, et al.: 1980, A study of gastric cancer with sarcoid reaction as observed in the regional lymph node (author's transl). Nihon Shokakibyo Gakkai Zasshi 77:1555-1561. [in Japanese with English abstract].

[19]. Takeuchi H, Suchi T, Suzuki R, Sato T: 1982, Histological study of immune parameters of regional lymph nodes of gastric cancer patients. Gann 73:420-428.

[20]. Gorton G, Linell F: 1957, Malignant tumours and sarcoid reactions in regional lymph nodes. Acta Radiol 47:381-392.