

Hodgkins Lymphoma Masquerading Tuberculous Cervical Lymphadenitis: Don't miss it in Children

Kiran B¹, Geetha M², Suman MG³, Madhusmitha Jena⁴, Santosh S⁵

How to cite this article:

Kiran B, Geetha M, Suman MG, et. al./Hodgkins Lymphoma Masquerading Tuberculous Cervical Lymphadenitis: Don't miss it in Children/Indian J Trauma Emerg Pediatr.2022;14(3):85–88.

ABSTRACT

This case report on a 12 year old boy who presented with cervical lymphadenopathy who have been evaluated and treated for Tuberculosis which later was diagnosed as Hodgkins lymphoma. This article highlights the importance of differentiating and diagnosing lymphoma at the earliest. Early and prompt treatment improves the prognosis in Hodgkins lymphoma.

Keywords: Lymphadenopathy, Hodgkins lymphoma, Tuberculosis, Biopsy

Key Messages: The article stresses the importance of differentiating and promptly diagnosing Hodgkin's lymphoma.

INTRODUCTION

Hodgkin's lymphoma is one of the most common malignancies of childhood involving lymph nodes and extra nodal sites.¹ Lymphomas may occasionally masquerade as a infectious illness.²

Tuberculosis may present similar to many other disorders and masquerade many other diseases too.³ Tuberculosis is still a major public health

problem in India.⁴ The annual risk is between 2 and 5% in young individuals to acquire infection.⁵

There are many case reports and studies which has highlighted the diagnostic difficulties in differentiating lymphoma and tuberculosis. This difficulty may lead to delay in diagnosis which may worsen patient prognosis.

A 5 month retrospective study from South Africa showed that 18 among 21 patients of lymphoma were wrongly diagnosed with Tuberculosis in one year period prior to the confirmation of lymphoma by histology.⁶

Both Tuberculosis and Follicular lymphoma (FL) may have evidence of granulomatous inflammation in Fine Needle Aspiration Cytology (FNAC).⁷ This may lead to the misdiagnosis of lymphoma as tuberculosis. Both Hodgkin's as well as non-Hodgkin's lymphomas, may have non-caseating sarcoid like granulomas.^{2,8,9} These extensive granulomas may mask the malignant process which

Author Affiliation: ¹Professor & HOD, ^{2,3}Assistant Professor, ⁵Professor, Department of Pediatrics, ⁴Professor & HOD, Department of Pathology, East Point college of Medical Sciences and Research Centre, Bangalore 560049, Karnataka, India.

Corresponding Author: Geetha M, Assistant Professor, Department of Paediatrics, East Point college of Medical Sciences and Research Centre, Bangalore 560049, Karnataka, India.

E-mail: gee_festoon@yahoo.co.in

Received on: 28.07.2022 **Accepted on:** 29.08.2022

may lead to the false diagnosis of tuberculosis.¹⁰

CASE REPORT

We are presenting a boy of 12 years old with history of swelling in the left side of the neck for 2 years, which is insidious onset and slowly progressing. He had no history of fever, cough, cold, throat pain, difficulty in swallowing, loss of appetite and weight loss.

On examination, child had left sided upper cervical lymphadenitis measuring 5×6 cms, not warm non tender, firm and discrete with no matting. (Fig 1)



Fig. 1: Clinical photograph showing lymphadenopathy pre treatment

The child was evaluated in Bihar for the same swelling underwent FNAC of the cervical lymph node showed granulomatous inflammation. In our hospital, child was admitted and FNAC was repeated which showed granulomatous inflammation. An Ultrasonogram of the neck showed evidence of tuberculous lymphadenitis. Lymph node material was tested negative for tuberculous acid fast bacilli (AFB) and CBNAAT. Sputum for AFB was also negative. Chest X-ray was normal.

The child was started on ATT after registering with RNTCP. He developed urticaria, skin rashes all over the body and stopped ATT and restarted with 3 drugs HRE.

The child was admitted in July 2021 for acute

gastroenteritis and got treated for the same. The child was again reevaluated for cervical lymphadenopathy since it was persisting with no change in size of the swelling. Hence excision biopsy was done which showed many Reed Sternberg cells (RS cells) which were large mononuclear, binuclear and multinucleate cells-features suggestive of Hodgkin's lymphoma-mixed cellularity type. CECT with contrast was done for systemic evaluation showed multiple well defined discrete lobulated homogeneously enhancing enlarged lymph nodes in left cervical, axillary, paratracheal regions. Multiple rounded hypodense lesions in the spleen measuring 10-15mm in size. There were few small non enhancing lesions in bilateral kidneys suggestive of lymphoma- ANN ARBOR staging-stage IV (involvement of bilateral kidneys).

The child was referred to oncologist and started on chemotherapy. The child is in regular follow up with complete resolution. (Fig 2)



Fig. 2: Showing clinical photograph post treatment

DISCUSSION

The differentiation between Tuberculosis and Hodgkin lymphoma may be quite challenging. The symptoms may be fever, cough, lymphadenopathy, fatiguability, loss of weight and night sweats. Mantoux test may be negative in Hodgkin's lymphoma despite having active Tuberculosis because of defective cell mediated immunity.¹¹

Chest Xray and Computed Tomography are preferred imaging modalities but cannot conclusively differentiate the HL and Tuberculosis. Newer imaging modalities like Single positron emission CT (SPECT) or PET imaging shows hypermetabolic lesions in both, so it cannot help in differentiating the two.¹²

Hence, the most specific and sensitive diagnostic procedure is the Biopsy. The caseating or necrotizing granulomatous lesions typical for TB may also be seen in HL and NHL. (13) Reed Sternberg cells (RS cells) are not entirely specific for HL. The expression of CD 15 and CD 30 antigens on RS cells is diagnostic of classic HL.

Similarly, to confirm tuberculosis, the presence of AFB in biopsy and/or culture is required.¹⁴

So, to diagnose HL or TB lymphadenitis, excision biopsy is considered the gold standard investigation in evaluating cervical lymphadenitis than FNAC. The Gene Xpert test of lymph node material in smear positive samples differentiates tuberculous and non-tuberculous mycobacteria. It is a rapid diagnostic test for TB.

A study from Chennai of 172 patients with HL, which showed 32 patients had already given empirical ATT without the evidence of active TB, even before the diagnosis of HL.¹⁵

Studies across the world recommend a change in current guidelines to enhance a faster and more accurate diagnosis of lymphoma. A management algorithm proposed by a south Africa study recommends patients with presumed TB who are AFB smear negative should initially be treated with anti-tubercular medication as per guidelines.^{6,16,17}

If there is no improvement after a month of treatment and if patient remains AFB smear negative, then biopsies should be done for histopathological evaluation of lymphoma, tuberculosis and other possible pathology.

CONCLUSION

This case report highlights the challenging nature of diagnosing lymphoma from tuberculous lymphadenitis. Both present with lymphadenitis, granulomatous inflammation in histology which delay in correct diagnosis of lymphoma.

Early diagnosis of Hodgkin's lymphoma is very important. Dilemma in the diagnosis can be solved with excision biopsy of the lymph node and Gene Xpert test of the lymph node material. The prognosis of Hodgkin lymphoma is very good with high cure rate in children if diagnosed early and treated promptly.

Acknowledgement: Nil

Conflict of Interest: Nil

REFERENCES

1. Kabra, Sushil & Lodha, Rakesh & Seth, Vinayak. (2004). Some current concepts on childhood tuberculosis. The Indian journal of medical research. 120. 387-97.
2. Centkowski P, Sawczuk-Chabin J, Prochorec M, Warzocha K. Hodgkin's lymphoma and tuberculosis coexistence in cervical lymph nodes. Leuk Lymphoma. 2005;46(3):471-475. doi:10.1080/10428190400019891.
3. Sharma P, Dhingra KK, Sural S, Mandal AK, Singh T. Langerhans cell histiocytosis masquerading as tuberculosis: a diagnostic dilemma resulting in inappropriate anti-tubercular therapy. Pediatr Blood Cancer. 2009;53(1):111-113. doi:10.1002/pbc.21930.
4. John TJ. Tuberculosis control: detect and treat infection in children. Indian Pediatr. 2008;45:261-4.
5. Puvaneswaran B, Shoba B. Misdiagnosis of tuberculosis in patients with lymphoma. S Afr Med J (2012) 103:32-3.10.7196/samj.6093. [PubMed] [CrossRef] [Google Scholar]
6. Pandit S, Choudhury S, Das A, Das SK, Bhattacharya S. Cervical lymphadenopathy – pitfalls of blind antitubercular treatment. J Health Popul Nutr (2014) 32:155-9. [PMC free article] [PubMed] [Google Scholar]
7. Asakawa H, Tsuji M, Tokumine Y, et al. Gastric T-cell lymphoma presenting with epithelioid granulomas mimicking tuberculosis in regional lymph nodes. J Gastroenterol. 2001;36(3):190-194. doi:10.1007/s005350170128.
8. Plank L, Adamkov M. Synzytiale Variante des nodulär-sklerotischen Typs der Hodgkin-Krankheit in Halslymphknoten und Leber [Syncytial variant of the nodular sclerosing type of Hodgkin's disease in cervical lymph nodes with simultaneous sarcoidosis-like granulomatosis in the intrathoracic lymph nodes and liver]. Zentralbl Pathol. 1992;138(4):292-297.
9. Basu D, Bunde M. Angioimmunoblastic T-cell lymphoma obscured by concomitant florid epithelioid cell granulomatous reaction—a case report. Indian J Pathol Microbiol. 2005;48(4):500-502.
10. Starke JR, Smith MH, Tuberculosis. In: Feigin RD, Cherry JD, ed: Textbook of pediatric Infectious Diseases. 4th edition. Philadelphia: WB Saunders company; 1998:1196-239.
11. Sandherr, Michael & Schilling, Christoph & Link, Thomas & Stock, Konrad & Bubnoff, Nikolas & Peschel, Christian & Avril, N. (2001). Pitfalls in imaging Hodgkin's disease

- with computed tomography and positron emission tomography using fluorine-18-fluorodeoxyglucose. *Annals of oncology : official journal of the European Society for Medical Oncology / ESMO*. 12. 719-22. doi:10.1023/A:1011136324038.
12. Johnson LN, Iseri O, Knodell RG. Caseating hepatic granulomas in Hodgkin's lymphoma. *Gastroenterology*. 1990;99(6):1837-1840. doi:10.1016/0016-5085(90)90498-p.
 13. Padma M, Kumar N, Munireddy J, Kumar A, Gujjal PC, Premalata SC. Tuberculosis Coexistence in Pediatric Hodgkin's Lymphoma: A Tropical Country Experience. *South Asian J Cancer*. 2020;9(4):236-239. doi:10.1055/s-0041-1723629.
 14. Radhakrishnan V, Dhanushkodi M, Ganesan T S et al. Pediatric Hodgkin lymphoma treated at cancer institute, Chennai, India: Long-term outcome. *J Glob Oncol*. 2016; 3 (05):545-554.
 15. WHO Tuberculosis 2020. <https://www.who.int/news-room/fact-sheets/detail/tuberculosis>.
 16. NICE (National Institute of Clinical Excellence) Tuberculosis – NICE guidelines (NG33) 2016. <https://www.nice.org.uk/guidance/ng33>.
-
-