Aetiology and Presentation of Cervical Lymphadenopathy In Baquba Teaching Hospital

Saad Y Ibrahim (MBChB, FICMS) and Jalil Ibrahim Khalf (MBChB, FICMS)

Abstract

Background: Cervical lymphadenopathy is a common presenting complaint in an out-patient clinic in Baquba Teaching Hospital. There are various causes which can cause enlargement of cervical lymph nodes starting from simple inflammation to malignant causes. Tuberculous adenitis is an important and familiar cause of cervical lymphadenopathy which is more common in low socio-economic countries. Fine needle aspiration, incisional and/or excision biopsies are performed to reach the definitive diagnosis.

Objective: To find out the most common causes of cervical lymphadenopathy in Baquba Teaching Hospital.

Patients and Methods: It is a prospective study conducted in Baquba Teaching Hospital over four years (2009-2013). Patients involved in the study are those with cervical lymphadenopathy for more than 3 weeks that are not responding to medical treatment. Fine needle aspiration and incisional or excisional biopsy performed for all patients.

Results: One hundred and eighty seven patients (103 males, 84 females) with cervical lymphadenopathy were included in the study. The age range of the patients was from 10 to 75 years. The most common two cause were Tuberculous lymphadenitis 69(36.9%) and Hodgkin’s lymphoma 61(32.6%). The aforementioned causes were followed in order of frequency by reactive changes 23(12.3%) and non-specific inflammation 19(10.2%). The least common causes were metastatic carcinomas 13(7%), non-Hodgkin lymphoma 2(1%).

Conclusion: Tubercular cervical lymphadenitis is a common disease in our country. So it is recommend to exclude tubercular lymphadenopathy in any patient presented with chronic lymphadenitis that is not responding to medical treatment. Early diagnosis & proper treatment will lead to recovery of the disease and lessen the complications.

Key words: Cervical lymphadenopathy, Tubercular lymphadenopathy, Lymphoma.

Corresponding Author: dsaad968@gmail.com

Received: 20th February 2018
Accepted: 18th March 2018

Introduction

Lymphatic system is part of the defense mechanism of the body. Interstitial fluid is drained through the lymphatic system and filtered by nodes which are distributed throughout the body. Cervical nodes which drain the head, neck and part of chest, are exposed lymph nodes of the body. Cervical lymphadenopathy is common in childhood [1]. Different diseases can cause lymph node enlargement. However, the majority of the patients with neck lymphadenopathy lasting less than three weeks have benign reactive cause. Differential diagnosis of cervical lymphadenopathy is so vast that a focus is
essential. Lymphadenopathy can involve different age groups and different site of the body [2-4].

Lymphadenopathy is considered a common clinical presentation in an outpatient departments. It is a cause of concern for both the patient and physician even when symptom are absent[5-8].

Lymphadenopathy causes can be generally classified as [9, 10]:

1- Infection: Tuberculosis, streptococcal infection, measles, pediculosis, chickenpox, infectious mononucleosis, HIV, toxoplasmosis.

2- Malignancy: lymphoma, acute lymphoblastic leukemia, and metastasis.

3- Autoimmune: Rheumatoid arthritis, systemic lupus erythematosus.

4- Drugs: phenytoin, cotrimoxazole, allopurinol, atenolol and penicillins.

5- Others: sarcoidosis, storage disorders, histiocytosis.

Cervical lymphadenopathy could be due to different diseases like tuberculosis, lymphoma, metastatic malignancy, sarcoidosis and viral and bacterial infections of head, neck, throat and face. Tubercular lymphadenopathy is the most common extra pulmonary form of tuberculosis and cervical lymphadenopathy is the most commonly extra pulmonary form of the disease[11, 12].

Tuberculosis (TB) is the first differential diagnosis for a patient who presents with chronic lymph node enlargement (>3 weeks) in India, Asia and some of the other developing countries, [13, 14]. However, studies had been shown that more than 50% of cases of lymphadenopathy are due to non-tubercular causes and, in such cases, excision biopsy with histopathology and/or microbiological examination, is the only way to exclude tuberculosis [15]. Malignancies responsible for about 1% of cases of lymphadenopathies [16].

Of the many causes in adults, lymphoma and HIV infection should be excluded in inconclusive cases [13]. A 5 months data from Lymphoma Clinic in South African revealed that 18 out of 21 patients of lymphoma were diagnosed mistakenly as tuberculosis [17]. The most common type of lymphoma is “diffuse large B cell lymphoma” followed by “follicular lymphoma” [18, 19]. Follicular lymphoma is the most common indolent lymphoma [20].

Patients and Methods

This is a prospective study conducted in Baquba Teaching Hospital over the period of four years (January 2009- December 2013). The patients were admitted from both a private and outpatient clinic. First a full history taken with thorough physical examination performed for all the patients. Then, laboratory tests including complete blood picture, CRP and erythrocyte sedimentation test (ESR). Imaging studies as chest X-ray, ultrasound and/or computerized tomography scan (CT scan) of abdomen to detect others site of lymph nodes were also performed. Fine needle aspiration cytology done for all patients to isolate patients who's lymphadenopathy are malignant or suspected to be malignant and those who have high suspicion of being tubercular.
lymphadenopathy. The long history and the outcome of physical examination give the physician suspicion of malignant changes. All cytological results which are reactionary (mainly inflammatory) were given a chance of three weeks treatment with the usual antibiotics. All patients with malignant cytologies and, those with suspected malignancy or suspicion of tuberculosis and those who are not responding to the usual antibiotics were submitted to incisional or excisional biopsy. The results of excisional biopsy and histopathology was the cornerstone of final diagnosis. The patients with reactive lymphadenopathy were reassured, treated as simple cases and those with tuberculous lymphadenitis were treated with anti-tuberculosis chemotherapy. Those patients with lymphomas and those with metastatic lymphadenopathy were referred the oncologist for management.

In case of malignant metastasis to cervical lymph nodes, a thorough screening for the primary source is achieved.

Statistical Analysis

Statistical significance is calculated using number in percentage put into table and figural.

Results

One hundred and eighty seven patients were included in the study (103 (56.1%) were males while 84(43.9%) were females) table (1). Out of these 187 cases, 145 patients were complaining from involvement of superficial group (mainly in the posterior triangle of the neck). The remainder 42 patients were involving the deep groups of the lymph nodes (both in the anterior and posterior triangles) figure(1). Age of the patients ranged between 10-75 years (the majority were in the age group 11-20) followed by those in the age range 31-40 table (2) and involvement of unilateral lymph nodes by the enlargement was commonest than bilateral involvement.

Table (1): Sex distribution of the patients (number of patients 187).

| Sex   | Male No (%) | Female No (%) | Total |
|-------|-------------|---------------|-------|
|       | 103 (55.08%) | 84 (44.919%)  | 187   |

Figure (1): Distribution of lymphadenopathy according to site of the neck involved.
Aetiology and Presentation of Cervical Lymphadenopathy In Baquba Teaching Hospital

Saad Y Ibrahim

Table (2): Age distribution of the patients (number of patients 187).

| Age groups (years) | Total | Male | Female |
|-------------------|-------|------|--------|
| 10-20             | 55    | 37   | 18     |
| 21-30             | 42    | 22   | 20     |
| 31-40             | 43    | 24   | 19     |
| 41-50             | 15    | 8    | 7      |
| 51-60             | 14    | 6    | 8      |
| 61-70             | 14    | 5    | 9      |
| 71-75             | 4     | 3    | 1      |
| Total             | 187   |      |        |

The majority were in the age group 11-20 followed by those in the age range 31-40.

Table (3): Distribution of the patients according to the cause of cervical lymphadenopathy.

| Aetiology              | number | Percent% | Male | Female |
|------------------------|--------|----------|------|--------|
| Tuberculosis           | 69     | 36.9%    | 39   | 30     |
| Hodgkin’s lymphoma     | 61     | 32.6%    | 36   | 25     |
| Reactive changes       | 23     | 12.3%    | 12   | 11     |
| Chronic nonspecific infl. | 19   | 10.2%    | 10   | 9      |
| Metastatic carcinoma   | 13     | 7%       | 5    | 8      |
| Non-Hodgkin lymphoma   | 2      | 1%       | 1    | 1      |
| Total                  | 187    | 100%     | 103  | 84     |

Histopathology revealed that 69 (36.9%) patients have tuberculosis. This is followed by Hodgkin’s lymphoma which accounts for about 61 cases (32.6%). Reactive changes and chronic nonspecific inflammation accounted for 23 (12.3%) & 19 (10.2%) respectively. Metastatic carcinoma 13 (7%) and finally, non-Hodgkin’s lymphoma [2] cases which accounted for (1%) table (3).

Discussion

The most frequent cause of cervical lymphadenopathy in our study was tuberculosis (36.9%). This is in accordance with study done by Dandapat et al 41.5% & Castro et al 46%[12]. The most common group involved was the posterior followed by upper deep group. Study by Weiler Z et. al. prove that posterior nodes were affected in 42% of cases then the upper deep lymph nodes 16% and submandibular group in 15% of cases[21]. With regard to the sex distribution for a patients having tuberculosis, the current study revealed that 56.1% of cases were males & 43.9% were females, which is closed to a study done by Pandit AA, Candes FP.Khubchandani SR. and these by Al-Mulhim AS, et.al which revealed that 52.9% of cases were male & 47.1% were female[22-24]. The amazing thing in our study is that the Hodgkin’s lymphoma of
lymph nodes constitute 32.6% of cases. The number is bigger than that shown by Luminari S et al. in their study where tubercular tuberculosis constitute only 19.34%. This indicate high prevalence of tuberculosis in our country.

Metastatic cancer in a cervical lymph node constitute 7% in the current study. This number is slightly larger than that shown by Mack Y, Parsons JT, Mendenhall WM et al. which revealed a 4% as a cause for the cervical lymphadenopathy[25].

Conclusion

As tuberculosis is the main cause of cervical lymphadenopathy in our country, Early diagnosis and proper treatment lead to recovery of disease and lessen the complication.

Lymphoma is another significant cause which should not be ignored.

Recommendation

Because of the different causes that can cause cervical lymphadenopathy and because many of them are serious diseases, it is of utmost importance to investigate any case presented with cervical lymphadenopathy.

References

[1] Papadopoli E, Michallidi E, Papadopoulou E, Paslkip P, Vlahakis I, Kalmanti M. Cervical lymphadenopathy in childhood epidemiology and management. Pediatr Hematol Oncol 2009 Sep;26(6):454-60.
[2] Savage SAH, Wotherspoon HA, Fitzsimons EJ, Mackenzie K. Cervical lymphadenopathy resulting in a diagnosis of lymphoma. Scottish Medical Journal August 2008; vol 53(3):13-16.
[3] Naqvi SQH, Memon JM, Ansari NA, Memon RA, Akhund AA. Role of fine needle aspiration cytology in peripheral lymphadenopathy. Pak J of Surg. 2006; vol 22(2):96-99.
[4] Martin DA, James OA, Allen SL, John EN. Clinical Oncology, 2nd ed. London(UK): Churchill Livingstone Inc; 2000.87 p.2620-9.
[5] Bazemore AW, Smucker DR. Lymphadenopathy and malignancy. Am Fam Physician (2002) 66:2103–10.
[6] Biswas G, Das A, Haldar D, Mukherjee A, Dutta S, Sinha R. Clinicopathological correlates of cervical lymphadenopathy: a hospital based study. Indian J Otolaryngol Head Neck Surg (2013) 65:42–7. doi:10.1007/s12070-011-0443-z.
[7] Chamyal PC, Sabarigirish K. Clinicopathological correlation study of cervical lymph node masses. Indian J Otolaryngol Head Neck Surg (1997) 49:402–5. doi:10.1007/BF02994662.
[8] Mohseni S, Shojaiiefard A, Khorgami Z, Alinejad S, Ghorbani A, Ghafouri A. Peripheral lymphadenopathy: approach and diagnostic tools. Iran J Med Sci (2014) 39:158–70.
[9] Ferrer R. Lymphadenopathy: differential diagnosis and evaluation. Am Fam Physician (1998) 58:1313–20.
[10] Habermann TM, Steensma DP. Lymphadenopathy. Mayo Clin Proc (2000) 75:723–32. doi:10.4065/75.7.723 10.
[11] Pangalis GA, Vassilakopoulos TP, Boussiotis VA, Fessas P. Clinical approach
to lymphadenopathy. Semin Oncol (1993) 20:570–82.
[11] Maharjan M et al. Incidence of tuberculosis in enlarged neck nodes, our experience. Kathmandu University Medical Journal (2009), vol. 7, NO.1, Issue 25, 54-58.
[12] Dandapat MC, Mishra BM, Dsah SP, Kar PK. Peripheral lymph node tuberculosis: a review of 80 cases. Br J Surg. 1990 Aug;77(8):911-12.
[13] 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.
[14] Prasad RR, Narasimhan R, Sankaran V, Veliath AJ. Fine-needle aspiration cytology in the diagnosis of superficial lymphadenopathy: an analysis of 2,418 cases. Diagn Cytopathol (1996) 15:382–6. doi:10.1002/ (SICI)1097-0339(199612)15:53.0.CO;2-E
[15] Sharma SK, Mohan A. Extrapulmonary tuberculosis. Indian J Med Res (2004) 120:316–53.
[16] Bezabeth M, Mariam DW, Selassie SG. Fine needle aspiration cytology of suspected tuberculous lymphadenitis. Cytopathology. 2002 Oct; 13(5):284-90.
[17] Puvaneswaran B, Shoba B. Misdiagnosis of tuberculosis in patients with lymphoma. S Afr Med J (2012) 103:32–3. doi:10.7196/samj.6093.
[18] Mondal SK, Mandal PK, Samanta TK, Chakaborty S, Roy SD, Roy S. Malignant lymphoma in eastern India: a retrospective analysis of 455 cases according to World Health Organization classification. Indian J Med Paediatr Oncol (2013) 34:242–6. doi:10.4103/0971-5851.125235.
[19] Naresh KN, Srinivas V, Soman CS. Distribution of various subtypes of non-Hodgkin’s lymphoma in India: a study of 2773 lymphomas using R.E.A.L. and WHO classifications. Ann Oncol (2000) 11(Suppl 1):63–7. doi:10.1023/A:101110326656.
[20] Longo D. 18th ed. In: Longo DL, Fauci AS, Kasper DL, Hauser SL, Jameson JL, Loscalzo J, editors. Malignancies of lymphoid cells. In: Follicular Lymphoma. New York: The McGraw-Hill Companies (2012).
[21] Weiler Z, Nelly P, Baruchin AM, Oren S. Diagnosis and treatment of cervical tuberculous lymphadenitis. J Oral Maxillofac Surg. 2010 May;58(5):477-81.
[22] Pandit AA, Candes FP, Khubchandani SR. Fine needle aspiration cytology of lymph nodes. J Postgrad Med 1987;33:134.
[23] Al-Mulhim AS, Al-Ghamdi AM, ALMarzooq YM, Hashish HM, Mohammad HA, Ali AM, Gharib IA. The role of needle aspiration cytology and imprint cytology in cervical lymphadenopathy. Saudi Med J. 2004 Jul;25(7):862-5.
[24] Neelakantan S, Nair PP, Emmanuel RV, Agrawal K (2013) Diversities in presentations of extrapulmonary tuberculosis. BMJ Case Rep 2013.
[25] Luminari S, Bellei M, Biasoli I, Federico M. Follicular lymphoma. Rev Bras Hematol Hemoter (2011) 34:54–9. doi:10.5581/1516-8484.20120015.