Non malignant peripheral lymphadenopathy in Nigerians

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Summary

Persistent peripheral lymphadenopathy (PL) not associated with malignancy or a focal lesion can pose a diagnostic and therapeutic problem. This study reports the pathological findings in the lymph nodes of 225 patients who presented with PL at the University Hospital, Ile-Ife, Nigeria within a period of ten years. Majority of the patients were male, with a male: female ratio of 1.5:1. Patients below the age of 41 accounted for 70.6% of the cases. Children aged 0-15 years accounted for 27.1% of total number of cases. The most common histopathologic diagnosis was chronic granulomatous lymphadenitis (49.3%) with tuberculosis accounting for almost all the cases. Thirty six (32.7%) cases of tuberculous lymphadenitis occurred in children. Other pathological lesions were: chronic non specific lymphadenitis (35.6%) reactive lymphadenopathies (13.3%) and acute lymphadenopathy (1.8%). Toxoplasmosis was the most common cause of reactive lymphadenopathy. Tuberculosis should be suspected and ruled out in patients who present with PL, particularly in rural areas with no access to histopathology services.

Keywords: ***Peripheral lymphadenopathy, Tuberculosis, Toxoplasmosis, Lymphadenitis.***

Résumé

La lymphadenopathie périphérique persistante (PL) qui n'est pas associée avec la malignité ou avec la lésion focale pourrait soulever des problèmes diagnostiques et thérapeutiques.

Cette étude fait le rapport des résultats pathologiques dans les nœuds lymphatiques des 225 patients atteints du PL à l'Hospitalier Universitaire d'Ile-Ife au Nigeria en moins de la période de dix ans. La plus grande partie des patients étaient male, avec la proportion male-femme de 1,5 :1. Les patients âgés de moins de 41 étaient 70,6% des cas.

Les enfants âgés de 0 -1 5 ans étaient 27,1 % de nombre total des cas. L'histopathologie diagnostique la plus fréquente était la lymphodenectomie granulomatose chronique 49,3% avec la tuberculose à la base de presque tous les cas. Trente six soit 32,7% des cas de lymphadenectomie tuberculose étaient recensés chez les enfants. Des autres lésions pathologiques étaient: non spécifie lymphadenectomie 35,6%, les lymphadenopathies réactives 13,3% et lymphadenectomic argue 1,8%. La Toxoplasmose était la cause de la lymphadenopathie réactive la plus fréquente.

La Tuberculose devrait être présumé et exclut chez les patients qui se plaignent de PI dans la zone rurale où on n'a pas accès aux services histopathologiques en particulier.

Introduction

Patients who have persistent peripheral (superficial) lymphadenopathy are commonly seen in routine clinical practice. Lymph node enlargement, commonly referred to as lymphadenopathy can be regional or local, generalised, solitary or bilateral. It can be the result of primary lymphoid malignancy, leukaemia, secondary involvement of lymph node with non lymphoid or haematologic malignancy, from infection or from the numerous reactive states in lymph nodes. The differentiation of neoplastic from reactive diseases in a lymph node is important and may sometimes prove difficult[1]. Some reactive states like sinus hyperplasia (formerly sinus histiocytosis) may be seen in lymph node dissection for cancer[2]. Some like progressively transformed germinal centres may evolve into lymphoma[3]. Persistent peripheral lymphadenopathy unrelated to malignancy may sometimes prove a diagnostic and/or therapeutic problem and is the subject matter of this study.

This paper attempts to study the histological patterns seen in non malignant enlarged peripheral lymph nodes in Ile-Ife, South Western Nigeria where the predominant ethnic group is Yoruba. The aim is to highlight the various types of diseases seen in peripheral lymph nodes and their pattern of distribution among the sexes and various age groups.

Materials and methods

The daily surgical register of the histopathology department of the Obafemi Awolowo University Teaching Hospitals Complex (OAUTHC), Ile-Ife, Nigeria was scrutinised for cases of lymph node biopsies seen between January 1989 and December 1998. The biopsies were fixed in 10% formal saline and routinely stained with haematoxylin and eosin. Special stains like the Ziehl-Neelson, periodic Acid Schiff and Giemsa stains were used for the diagnosis of some cases of tuberculosis and toxoplasmosis. The diagnosis, age and sex of each case and the site of lymph node biopsy were noted. The diagnosis were broadly classified into acute lymphadenitis, reactive lymphadenopathies, chronic non specific and granulomatous lymphadenitis. Whereas in reactive lymphadenitis the lymph node is reacting to a known stimulus or the histologic pattern conforms to that of a known disease entity (e.g. toxoplasmosis, Kikuchi's lymphadenitis) in chronic non specific lymphadenitis the histologic appearance is not specific for a particular disease entity. All cases of lymph node involvement with lymphoma, leukaemia and secondary tumours were excluded from this study.

Results

Two hundred and twenty five patients with ages ranging from 2 months to 78 years were seen during the ten-year study period. One hundred and thirty five (60%) were male and ninety (40%) were female; giving a male: female ratio of 1.5:1.

Table 1 Distribution of lymph node biopsies by age and sex

Age groups in years	Male	Female	Total
0 - 5	9	4	13
6-10	10	13	23
11-15	17	8	25
16-20	20	9	29
21-25	17	5	22
26-30	9	10	19
31-35	9	8	17
36-40	5	6	11
41-45	9	4	13
46-50	4	6	10
51-55	3	2	5
56-60	4	6	10
61-65	5	2	7
66-70	6	2	8
71-75	3	-	3
76-80	1	-	1
Age unknown	4	5	9
Total	**135**	**90**	**225**

Average age = 28.2 years.

Correspondence

Table 2 Sites of lymph node biopsy

Lymph node region	Number of cases	%
Cervical	97	43.1
Axillary	42	18.7
Inguinal	32	14.2
Femoral	4	1.8
Submandibular	4	1.8
Supraclavicular	4	1.8
Submental	1	0.4
Unknown Site	41	18.2
Total	**225**	**100**

Table 3 Histopathological diagnoses in peripheral lymph nodes

	Diagnosis	Number of cases	%
1.	Acute lymphadenitis	4	1.8
2.	Chronic non specific lymphadenitis	80	35.6
3.	Chronic granulomatous lymphadenitis	111	49.3
4.	Reactive lymphadenopathies	30	13.3
	Total	**225**	**100**

Table 4 Distribution of Tuberculous lymphadenitis by age and sex

Age Group	Male	Female	Total
0-5	4	4	8
6-10	5	7	12
11-15	9	7	16
16-20	12	6	18
21-25	7	3	10
26-30	5	7	12
31-35	3	5	8
36-40	2	3	5
41-45	5	2	7
46-50	3	1	4
51-55	-	1	1
56-60	1	1	2
61-65	-	2	2
66-70	-	1	1
Age Unknown	2	2	4
Total	**58**	**52**	**110**

Mean - 24.2 years.

Table 1 shows the age and sex distribution of the cases seen. Lymph node enlargement was more often seen in the younger age groups. One hundred and fifty nine cases (70.6%) occurred in patients below the age of 41 years. There were 61 cases (27.1%) in the paediatic age group of 0-15 years. There was an overall male predominance.

The sites of the lymph node biopsies were shown in Table 2. Most of the biopsies were taken from the cervical nodes, followed by the axially and inguinal nodes. The biopsy site was unknown in 41 cases. Six of these had generalised lymphadenopathy.

Table 3 shows the histopathological patterns in lymph node biopsies. Chronic granulomatous lymphadenitis was the predominant lesion in lymph node. Out of the 111 cases seen, 110 (48.8%) had a diagnosis of tuberculous lymphadenitis and there was only one case of lymphogranuloma venereum. Chronic non specific lymphadenitis was next in frequency with 80 cases. Preactive lymphadenopathy accounted for the rest of the cases (13.3%). Out of the thirty cases seen, there were 23 cases of toxoplasmosis. The other reactive lesions seen were: histoplasmosis (2 cases), trypanosomiasis, Kikuchi's lymphadenitis and Rosai-Darfman's Syndrome (one case each).

Table 4 shows the age distribution of the 110 cases of tuberculous lymphadenitis seen. Fifty eight of these occurred in males and fifty two in females, giving a male-female ratio of 1.1:1. The occurrence was low after the age of 35 years. There were 66 cases in the cervical node (60%), 16 in the axially (14.5%) and 8 in the inguinal node (7.3%). The rest occurred in the supraclavicular (3), submandibular (3) and femoral (1) lymph nodes. The site of the biopsy was not specified in 13 cases. Two of these had generalised lymphadenopathy.

Discussion

The first study of peripheral lymphadenopathy in Nigerians was by Attah in 1974[4]. Most of the lymph nodes in that study showed non specific changes. Oluwole et al (1985)[5] also studied 294 enlarged peripheral lymph nodes seen within a period of 10 years. 51.7% of these nodes showed chronic inflammation while malignant diseases accounted for 48.3%. A similar study to that of Oluwole et al. was done by Adedeji and Aghahowa (1989)[6]. The incidence of non specific lymphadenitis in that study was as high as 65.3%. Kasili and Shah (1974)[7] in Kenya also studied 1918 abnormal superficial lymph nodes in Kenyans 65.5% of which were from the cervical region. The use of fine needle aspiration in the management of peripheral lymhadenopathy has recently been studied by Thomas et al. in Ibadan, Nigeria[8].

Situated in the South Western part of Nigeria, the OAUTHC where this study was done is a tertiary health institution in the Ife-Ijesa area of Osun State, Nigeria. In this report, 225 cases of enlarged peripheral lymph nodes were studied. This is a modest number when compared with the 1918 cases studied by Kasili and Shah[7], although their study encompassed the whole of Kenya. There was a preponderance of male patients in this study as well as in the studies of Oluwole et al[5], Adedeji and Aghahowa[6]. Cervical lymph nodes were most often biopsied probably because they are often enlarged, very superficial and easily palpable and frequently involved with tuberculosis. They are probably easier to remove compared with other nodes.

Although in the study by Oluwole et al spanning a period of 10 years only 45 cases of tuberculous lymphadenitis were seen and non specific reactive hyperplasia was the common lesion in lymph node, in this study done in the same institution at a different period of time, there were 110 cases (48.8%) of tuberculosis in lymph node and it was the commonest lesion seen. The prevalence of tuberculosis in the cervical lymph node as seen in this study has also been reported by Adedeji and Aghahowa[6], Kasili and Shah[7], Thomas et al[8]. Children and young adults constitute a sizeable percentage of those affected. In this study there were 36 cases of tuberculous lymphadenitis in children up to 15 years old. This means that 59% of children up to 15 years old with peripheral lymphademopathy (36 out of 61) had tuberculosis. Earlier on, Alausa et al[9] in a survey of school children in Nigeria confirmed the high prevalence of tuberculosis in the cervical lymph node as seen in this study has also been reported by Adedeji and Aghahowa[6]. Kasili and Shah[7], Thomas et al[8]. Tuberculosis is also common in the cervical lymph nodes of patients below the age of 20 years in the study of Thomas et at[8], in Ibadan, Nigeria. The diagnosis of tuberculosis, however, may not be straightforward, particularly in children in whom the lesion may resemble chronic granulomatous disease of childhood,[10] and in areas of high prevalence of the Human Immunodeficiency Virus (HIV)[11]. Granulomas may be absent in some cases of tuberculosis with coexistent (HIV) infection.

The occurrence of chronic non specific lymphadenitis in this report was high. This was the most common diagnosis in the peripheral nodes studied by Attah[4]. It was the commonest diagnosis in the inguinal nodes in the study by Adedeji et al.[6] Oluwole et al[5] and Thomas et al[8] also reported a high incidence of non specific lymphadenitis. The diagnosis is particularly common in the inguinal lymph node. Because of repeated minor trauma to the feet associated with walking bare-foot which is a common practice in tropical areas, the inguinal lymph node is likely to show some degree of fibrosis and chronic inflammation. As the name suggests, chronic non specific lymphadenitis is not diagnostic of any specific disease. Reactive lymphadenopathy is also a common finding in peripheral nodes in this report as well as in those of other authors [5,7,8]. It implies lymph node reaction to a known aetiologic agent which may be infective or non infective. Toxoplasmosis was responsible for many of the cases seen in this study. Toxoplasmosis accounts

for 5.11% of all lymphadenitis of known origin[12]. It is extremely difficult to find toxoplasma organisms by morphologic examination. The Sabin-Feldman dye test is frequently positive but may be negative in the early stages of the disease[13]. Only a few cases were confirmed by serologic test in this report. Other findings in lymph node in toxoplasmosis include diffuse proliferation of epitheloid cells, enlarged germinal centres and numerous immunoblasts and tangible body macrophages. Earlier on, Adeiga and Ahmed[14] showed that 40% of pregnant women from Lagos, also in South Western Nigeria tested positive for toxoplasmosis. This, together with the result of this study shows that toxoplasmosis is in fact an important cause of lymphadenopathy. The possibility of transmission of toxoplasmosis through breast feeding continues to be raised[15].

In conclusion the possibility of tuberculosis should be entertained by clinicians in patients who present with peripheral lymphadenopathy, particularly in areas where histopathological services are not available.

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