



USG Abdomen Findings in Superficial TB Lymphadenitis

Author

Dr Deepali R Gaikwad. DNB (Resp Diseases), DTCD

Former Associate Professor, Dept Of Pulmonology MIMIER Medical College,
Talegaon Dabhade, Pune. Maharashtra

Corresponding Author

Dr Deepali R Gaikwad- Takale

Email- drg1818@rediffmail.com, Contact No- 9767104009

Abstract:

Objective: To evaluate association of abnormal findings on ultrasonography of abdomen and pelvis in confirmed cases of tuberculous lymphadenitis at Bhausaheb Sardesai Talegaon Rural Hospital (BSTRH), attached with M.I.M.E.R. Medical college, Talegaon Dabhade, Maharashtra.

Methods: This study was done at Bhausaheb Sardesai Rural Hospital attached to MIMIER Medical College at Talegaon Dabhade, Maharashtra. Ultrasonography of abdomen and pelvis was done in all patients diagnosed of tuberculous lymphadenitis. The diagnosis of tuberculous lymphadenitis was confirmed mainly on fine needle aspiration cytology.

Results: Of 70 cases of tuberculous lymphadenitis, USG abdomen and pelvis was normal in 50 cases (71.42%), while abnormal 20 cases (28.57%). Mesenteric lymphnodes with or without pre and paraaortic group of lymphnode enlargement was seen in 11 (15.71%) cases, one case of multiple cervical tuberculous lymphadenitis showed enlarged lymphnodes at porta hepatis and peripancreatic area (1.42%) , in 3 (4.28%) cases splenomegaly with multiple hypoechoic foci associated with mesenteric lymphnodes was seen; two (2.9%) out of three were of cervical tuberculous lymphadenitis and one (1.42%) was case of inguinal lymphadenitis. One case (1.42%) of cervical lymphnode showed iliac and femoral group of lymphnode enlarged, one case (1.42%) revealed thickening of terminal ilium wall. one case (1.42%) of inguinal lymphadenitis showed psoas abscess. One (1.42%) case of cervical lymphadenitis showed free fluid in abdomen and one case (1.42%) of right supraclavicular lymphadenitis revealed fluid in cul de sac.

Conclusion: All patients of confirmed tuberculous lymphadenitis should be subjected for ultrasonography of abdomen and pelvis considering lymphnode presentation as local manifestation of systemic or disseminated form of tuberculosis.

Keywords: Tuberculous lymphadenitis, USG abdomen, FNAC.

Introduction

Lymphnode tuberculosis constitutes 20-40% of extrapulmonary tuberculosis¹. Cervical lymphnodes are the most common site of lymphnode group involvement by tuberculosis. It is reported in 60 to 90% patients with or without involvement

of other lymphoid tissue. Tuberculosis can spread to other body tissues and organs through the blood stream and the lymphatic system². Abdominal TB constitutes up to 12% of cases of all cases of extrapulmonary TB³. Abdominal involvement in tuberculosis may occur due to direct ingestion

causing necrotic granulomas in the intestine or lymphatic spread causing tuberculous lymphadenitis. If sonographic findings are sufficiently characteristic for diagnosis, sonography would be useful, especially in India, where abdominal tuberculosis is common and more expensive imaging techniques are not easily available⁴.

When superficial lymphadenopathy and its association with abdominal findings are concerned; more emphasis is given on malignancies and metastasis, lymphomas as the first differential diagnosis on the list. Superficial lymphadenopathy due to tuberculosis involving abdomen and pelvis needs attention.

Objective

Objectives of this study were to find out abnormalities and diversities of findings on the ultrasonography (USG) of abdomen and pelvis in confirmed cases of tuberculous lymphadenitis and incidence of presence of systemic disease.

Materials and Methods

This study was conducted in the Dept of Pulmonology, MIMER Medical College.

Bhauasaheb Sardesai Rural Hospital, MIMER medical college, Talegaon is tertiary care centre and referral centre for tuberculosis patients. All patients with confirmed diagnosis of tuberculous lymphadenitis from year 2012 to 2015 were studied prospectively.

The study was approved by the Ethics Committee of MIMER Medical College. Informed consent was obtained from each patient before inclusion in the study. Patients attending the chest outpatient department and referred from medicine/paediatric, otorhynolaringology and surgery department of study centre with peripheral, superficial lymphnode enlargement were assessed for inclusion. General clinical assessment using medical history, physical examination and routine laboratory test was performed. Fine – needle aspiration cytology and or lymph node excision biopsy were performed to establish the diagnosis. Ultrasonography of abdomen and pelvis was

performed in each confirmed case of tuberculous lymphadenitis. USG findings were classified as 1] abdominal lymphnode enlargement, 2] splenomegaly with multiple hypoechoic foci, 3] ilieocaecal involvement, 4] free fluid in abdomen suggestive of peritonitis or fluid in cul de sac, 5] presence of psoas abscess.

Statistical analysis

The data were analyzed using statistical software SPSS version 16. The data with quantitative variables are presented as mean (\pm standard deviation).

Results

Total 70 patients, with mean age of 28.8 ± 12 years were included in the study. Of 70, 29 cases (41.4%) were male and 41 cases (58.6%) were female. With the male to female ratio 0.71:1.00. Incidence of TB lymphadenitis was highest among the age group of 20-29 years (38.6%). Commonest site of distribution of lesion reported was cervical lymphnode (57.1%) followed by axillary (12.9%), submandibular (12.9%), supraclavicular (10%) and inguinal (4.28%).

Only two patients were having complain of pain in abdomen. Of 70 cases of tuberculous lymphadenitis, USG abdomen and pelvis was normal in 50 cases (71.42%), while abnormal in 20 cases (28.57%). Abdominal lymphnode enlargement was observed in 14 (20%) cases. Of 70 patients three were HIV positive but none of these three showed any abdominal pathology. Mesenteric lymphnodes with or without pre and paraaortic group of lymphnode enlargement was seen in 11 (15.71%) cases, one case showed enlarged lymphnodes at porta hepatis and peripancreatic area (1.42%), in 3 cases splenomegaly with multiple hypoechoic foci associated with mesenteric lymphnodes was seen; two (2.9%) out of three were of cervical tuberculous lymphadenitis and one (1.42%) was case of inguinal lymphadenitis. One case (1.42%) of cervical lymphnode showed iliac and femoral group of lymphnode enlarged, one case (1.42%)

revealed thickening of terminal ilium wall. One case of axillary TB lymphadenitis showed inguinal lymphnode enlargement (1.42%). One case (1.42%) of inguinal lymphadenitis showed psoas abscess. One (1.42%) case of cervical lymphadenitis showed free fluid in abdomen and one case (1.42%) of right supraclavicular lymphadenitis revealed fluid in cul de sac.

Table 1) Distribution of cases according findings on Ultrasonography of Abdomen & Pelvis in tuberculous lymphadenitis cases (n=70).

Findings on USG	Site affected	No of Cases	%
Mesenteric with or without pre and paraaortic enlarged Lymphnodes	Cervical lymphnode	11	15.71%
Iliac and femoral group of lymphnodes enlarged	Cervical lymphnode	01	1.42%
Lymphnodes at porta hepatis and peripancreatic, spleenomegaly with multiple hypoechoic foci	Cervical lymphnode	01	1.42%
Iliac and femoral group of lymphnodes enlarged	Cervical lymphnode	01	1.42%
Thickening of wall of terminal ilium with Spleenomegaly and paraaortic lymphnodes	Cervical lymphnode	01	1.42%
Spleenomegaly with multiple hypoechoic foci	Inguinal lymphnode	01	1.42%
Free Fluid in Abdomen	Cervical lymphnode	01	1.42%
Fluid in Cul de sac	Supraclavicular lymphnode	01	1.42%
Inguinal lymphnode enlarged	Axillary lymphnode	01	1.42%
Psoas absces	Inguinal lymphnode	01	1.42%

Values are n (% of cases) n=70, Positive USG Abdomen and Pelvis=28.57%

Discussion

Cervical tuberculous lymphadenitis is one of the commonest form of extrapulmonary tuberculosis. It may be purely a localised disease or a local manifestation of systemic disease. Incidence of tuberculous lymphadenitis is more in female children and young females^{5,6}. Diagnosis of TB lymphadenitis is usually done by FNAC. FNAC of lymphnode is the most common first line method to establish the diagnosis of tuberculous lymphadenitis⁷. From the regional nodes, organisms may continue to spread via the lymphatic system to other nodes or may pass through the nodes to reach blood stream, from where it can spread to virtually all organ of the body⁸. Given this lymphatic spread of TB in the abdomen, it is

not surprising that the most common form of abdominal TB is tuberculous lymphadenitis. The mesenteric, periportal and peripancreatic lymphnode groups are most commonly affected⁹. Results of this study are matching this statement. Very few studies are reported in literature evaluating abdominal involvement in superficial tuberculous lymphadenitis. Study done by R E Bhingare et al in India, in paediatric population; cervical tuberculous adenitis showed 8% abdominal involvement out of which 4% was mesenteric lymphadenopathy¹⁰.

In literature, it is stated that tuberculosis of spleen is very rare, usually seen in disseminated form or miliary form of the disease and in patients having HIV infection. In study done by Dixit RI, Arya MK et al on patients having splenic involvement in tuberculosis, cervical lymphadenopathy was seen in 12% of cases¹¹. Isolated inguinal tuberculous lymphadenopathy is again a relatively rare disease in adults. Mostly involves cervical lymphnodes, mediastinal lymphnodes or abdominal lymphnodes. Inguinal lymphnode tuberculosis has been mentioned in the literature with involvement of skeletal system¹². A perispinal or psoas abscess occasionally points in the groin of one or both sides¹³.

Fluid in cul de sac and free fluid in abdomen are suggestive of peritoneal tuberculosis. The postulated mechanism by which tubercle bacilli gain entry to the peritoneal cavity are: transmurally from diseased bowel, through lymph channels, tuberculous salpingitis or, more commonly by hematogenous spread¹⁴.

Conclusion

Confirmed cases of superficial tuberculous lymphadenitis should be subjected for ultrasonography of abdomen and pelvis considering lymphnode presentation as local manifestation of systemic or disseminated form of tuberculosis.

Interest of conflict: No.

Funding: This reasearch is not funded by any private or public funding agency.

References

1. Gupta PR. Difficulties in managing lymphnode tuberculosis. Lung India.2004;21:50-53
2. P Fuentes ZM, Caminero JA: Controversies in the treatment of extrapulmonary tuberculosis. Arch Bronchoneumol 2006;42:194-201.
3. Michael H. Wittmer MD. Abdominal Tuberculosis with Tuberculous Lymphadenitis And Psoas Abscess. https://sonowold.com/CaseDetails/Abdominal_Tuberculosis_Lymphadenitis_and_psoas_Abscess.aspx?ModuleCaseId427.
4. Jain R, Sawhney S, et al. Diagnosis of abdominal tuberculosis: sonographic findings in patients with early disease. AJR Am J Roentgenol. 1995 Dec; 165(6):1391-5.
5. Sangeeta Sharma et al. Clinical Profile Of Treatment Outcome Of Tuberculous Lymphadenitis In Children using DOTs Strategy. Indian J Tuber 2010;57:4-11.
6. Dutta NC, Gupta AM. Analysis of Treatment Outcome Of Superficial Tuberculous Lymphadenitis on The Basis Of Cytomorphological Features. Natl J Community Med 2014;5(4):474-9.
7. Amer Hayat Khan C, Syed Azhar Syed Sulaiman C, Abdul Razak Muttalif a, Mohammad Azmi Hassali b, Tahir Mehmood Khan c, d. Tuberculous Lymphadenitis at Penang General Hospital, Malaysia. Med Princ Pract;20:80-84.
8. R Mohapatra, Janmeja AK. Tuberculous Lymphadenitis. JAPI August 2009;57:585-590
9. Hulnich DH, Megibow AJ, Naidich DP, et al. Abdominal tuberculosis: CT evaluation. Radiology 1985; 157:199-204.
10. R E Bhingare, P B Khaire, Parate A S. A study of clinical pattern of tuberculous lymphadenitis in children. International Journal of Recent Trends in Science And Technology 2015; Vol 15, Issue 1, pp 148-152.
11. Dixit RI, Arya MK, et al. Clinical Profile of Patients Having Splenic Involvement in Tuberculosis. Indian J Tuberc. 2010 Jan; 57(1): 25-30.
12. Rahi R, Biswas M, et al. Isolated Inguinal Tubercular Lymphadenopathy. Ann Trop Med Public Health. 2009;2:24-5.
13. D. Lawee, M. D. Primary Tuberculous Inguinal Lymphadenitis. Canad. Med. Ass. J. 1969 Jan 4; Vol 100: 34-36.
14. KR Mimidis et al. Peritoneal Tuberculosis. Review. Annals Of Gastroenterology 2005,18(3):325-329.