

Tuberculous Cervical Lymphadenitis: Diagnosis and Treatment Outcomes

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ABSTRACT

Aim: To examine the frequency of tuberculosis lymphadenitis by fine needle aspiration biopsy and histopathology in patients with cervical lymphadenitis also determine the treatment outcomes of anti-tuberculosis therapy in patients diagnosed to have tuberculosis cervical lymphadenitis.

Study Design: Prospective/Observational

Place and Duration: Department of ENT and Head & Neck Surgery, Department of Diagnostic Radiology Civil Hospital Quetta and Yaseen Hospital Quetta from 1st January 2018 to 31st December 2019.

Methods: Sixty patients of both genders with ages 5 to 65 years presented with cervical lymphadenitis were enrolled in this study. Patient's detailed demographic including age, sex, and clinical presentations were recorded. All patients underwent ultrasound guided fine needle aspiration biopsy and excisional biopsy to examine the tuberculosis cervical lymphadenitis. Patients with positive tuberculosis lymphadenitis were received standard anti-tuberculosis therapy. Treatment outcomes such as cured, died and lost to follow-up was examined. Follow-up was taken at 9 months.

Results: Thirty two (53.33%) were males while 28 (46.67%) were females. Majority 25 (41.67%) patients were ages 21 to 35 years followed by 16 (26.67%) with ages 36 to 50 years. Neck swelling was found in 60 (100%) patients followed by weight loss and fever in 38 (63.33%) and 24 (40%) patients. 36 (60%) patients had tuberculosis cervical lymphadenitis while 24 (40%) had other causes of cervical lymphadenitis by ultrasound guided fine needle aspiration. Among 36 tuberculosis cervical lymphadenitis patients 28 (77.78%) were females while 8 (22.22%) were males and mean age of patients was 37.46±11.28 years. From all tuberculosis cervical lymphadenitis patients 30 (83.33%) patients were cured, 3 (8.33%) were died and 3 (8.33%) were lost to follow-up.

Conclusion: The frequency of tuberculosis cervical lymphadenitis is very high among cervical lymphadenitis patients. Ultrasound guided FNA biopsy plays an important role for the diagnosis and management of this malignant disease.

Keywords: Cervical lymphadenitis, Tuberculosis, Ultrasound-guided fine needle aspiration, Anti-tuberculosis therapy,

INTRODUCTION

Tuberculosis is a multi-system disease with myriad presentation and manifestations and is the most common cause of infectious disease related mortality worldwide. The World Health Organization (WHO) has estimated that 2 billion people have latent tuberculosis and in 2009, the disease has killed 1.7 million people globally¹. It has a high prevalence in Asia and Africa, particularly in countries with low socioeconomic conditions^{2,3}. It occurs in all age groups and nearly any organ can be involved. Tubercular lymphadenopathy is the most common extra-pulmonary form of tuberculosis and cervical lymph nodes are the most commonly affected group of nodes⁴. Cervical lymph nodes may get enlarged due to different diseases, like tuberculosis, lymphoma, metastatic focus of malignant lesions, sarcoidosis and other viral and bacterial infections of head, neck, throat and face. Tuberculosis remains both diagnostic and the therapeutic challenge because it mimics other pathological processes and yield

inconsistent physical and laboratory findings. Diagnosis is difficult, often requiring biopsy. A complete history and physical examination, staining for acid fast bacilli (AFB), fine needle aspiration cytology (FNAC) and Polymerase chain reaction are helpful, in obtaining early diagnosis.⁵ Commonest presentation may be neck swelling, followed by fever, cold abscess, non-healing ulcer, discharging sinus, anorexia and weight loss⁶. It is recommended that there should be access for all patients with cervical lymphadenopathy to weekly neck lump clinic with standardized protocols for lymphoma diagnosis.⁷ Hodgkin's lymphoma, squamous cell carcinoma and metastasis from papillary thyroid cancer can co-exist in cervical lymph nodes.⁸ The current study was conducted aimed to examine the frequency of tuberculosis in patients with cervical lymphadenitis by using ultrasound-guided fine needle aspiration cytology, also examine the treatment outcomes of standard anti-tuberculosis therapy in patients with tuberculosis cervical lymphadenitis.

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MATERIALS AND METHODS

This prospective/observational study was conducted at Department of ENT and Head & Neck Surgery, Department of Diagnostic Radiology Civil Hospital Quetta and Yaseen Hospital Quetta from 1st January 2018 to 31st December 2019. A total of 60 patients of both genders with ages 5 to 65 years presented with cervical lymphadenitis were enrolled. Patients' detailed demographic including age, sex, and clinical presentation were recorded. Patients on anti-tuberculosis therapy, patients with severe head injury, patients diagnosed to have tuberculosis cervical lymphadenitis from other resources and those without written consent were excluded from this study. Complete physical and medical examination was done to all the patients. Chest X-rays were done. Ultrasound examination was done by senior radiologist. Ultrasound guided fine needle aspiration cytology was done to all the patients to examine the causes of cervical lymphadenitis. Excisional and incisional biopsy specimens were sent to laboratory for detailed examination. The diagnosis was undertaken on morphological grounds. Biopsy specimen containing caseating epithelioid cell granulomas were identified as tuberculosis by a senior histopathologist and other possible diagnosis were also made. Patients were diagnosed to have TB cervical lymphadenitis were underwent standard anti-tuberculosis therapy for 6 to 9 months. Follow up was taken at 9 months post therapy. Treatment outcomes such as recovered, died and lost to follow-up were recorded. All the data was analyzed by SPSS 24.

RESULTS

Thirty two (53.33%) were males while 28(46.67%) were females. 10(16.67) patients were ages ≤ 20 years, 25(41.67%) patients were ages 21 to 35 years 16(26.67%) with ages 36 to 50 years and 9(15%) had ages above 50 years. At admission neck swelling was the commonest symptom found in 60(100%) patients followed by weight loss, fever, cough and headache in 38(63.33%), 24(40%), 16(26.67%) and 10(16.67%) patients respectively (Table 1). Thirty six (60%) patients had tuberculosis cervical lymphadenitis, 12(20%) patients had reactive hyperplasia, 7(11.67%) had lymphoma and 5(8.33%) patients had metastatic malignancy of cervical lymphadenitis by ultrasound guided fine needle aspiration cytology and histopathological examination (Fig. 1).

Table 1: Age, sex and clinical presentation

Variable	No.	%
Sex		
Male	32	53.33
Female	28	46.67
Age (years)		
<20	10	16.67
21 to 35	25	41.67
36 to 50	16	26.67
> 50	9	15.0
Symptoms		
Neck Swelling	60	100.0
Weight Loss	38	63.33
Fever	24	40.0
Cough	16	26.67
Headache	10	16.67

Among 36 tuberculosis cervical lymphadenitis patients, 28 (77.78%) were females while 8(22.22%) were males and mean age of patients was 37.46 ± 9.28 years. From all tuberculosis cervical lymphadenitis patients, 30(83.33%) patients were cured, 3 (8.33%) were died and 3(8.33%) were lost to follow-up (Table 2).

Fig. 1: Frequency of tuberculosis cervical lymphadenitis

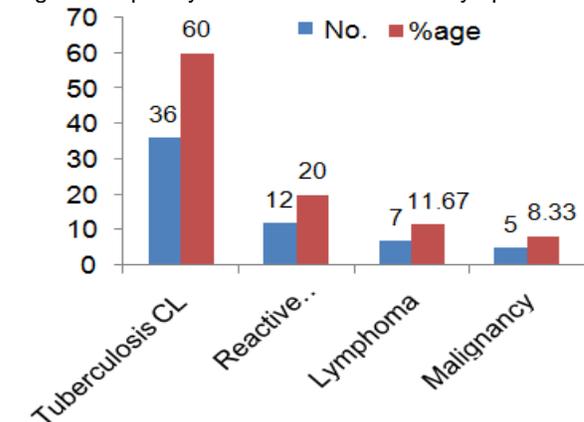


Table 2: Demographics and treatment outcomes of Tuberculosis cervical lymphadenitis patients

Variable	No.	%
Sex		
Male	8	22.22
Female	28	77.78
Mean Age (years)		
	37.46 \pm 9.28	
Treatment Outcomes		
Cured	30	83.33
Died	3	8.33
Lost to follow-up	3	8.33

DISCUSSION

Tuberculosis is one of the most common clinical diseases in all over the world specially in low income countries the prevalence of TB increases due to poverty, lack of awareness and poor sanitary condition.⁹ It is the most frequent infectious disease of the lymphoid tissue and is inoculable in nature.¹⁰ Cervical lymphadenopathy can be a manifestation of simple local inflammatory reaction to a spectrum of diseases including malignant lymphomas.¹¹ Accurate and proper diagnosis plays an important role for the management of tuberculosis cervical lymphadenitis. In the present study, majority 53.33% patients were males while 46.67% were females and 41.67% were in the second to fourth decade of their lives. A study conducted by Tanwir et al¹² regarding tuberculosis cervical lymphadenitis reported that 83.4% patients were females while 16.6% patients were males and maximum patients were in 21-30 years of age group followed by 11-20 years. Another study by Magsi et al¹³ reported that 57.14% patients were males and 42.86% patients were females whom were presented with cervical lymphadenitis.

This study showed that neck swelling was the commonest symptom found in 60 (100%) patients followed by weight loss, fever, cough and headache in 38 (63.33%), 24 (40%), 16 (26.67%) and 10 (16.67%) patients respectively. These results were similar to many of

previous studies in which neck swelling, fever, cold, cough and weight loss with feeling weakness were the common symptoms of cervical lymphadenitis^{14,15}.

In the current study, we used fine needle aspiration cytology as a diagnostic tool for diagnosing causes of cervical lymphadenitis, excisional biopsy was also done to some of cases to examine the histopathology findings. We found that 36(60%) patients had tuberculosis cervical lymphadenitis, 12(20%) patients had reactive hyperplasia, 7(11.67%) had lymphoma and 5(8.33%) patients had metastatic malignancy. Magsi et al¹³ reported that tuberculosis cervical lymphadenitis was found in 57.14%. Sattar et al¹⁶ reported that tuberculosis cervical lymphadenitis observed in 57.5% cases of lymph nodes and they used ultrasound guided fine needle aspiration cytology as a diagnostic tools and reported that FNAC was a safe and effective diagnostic tool with high accuracy.

This study showed that all 36 tuberculosis cervical lymphadenitis patients were underwent standard anti-tuberculosis therapy for 6 to 9 months. Among 36 tuberculosis cervical lymphadenitis patients, 28(77.78%) were females while 8(22.22%) were males and mean age of patients was 37.46±9.28 years. From all tuberculosis cervical lymphadenitis patients, 30 (83.33%) patients were cured, 3(8.33%) were died and 3 (8.33%) were lost to follow-up. Many of previous studies demonstrated that the incidence of tuberculosis cervical lymphadenitis was high in females 70 to 90% and majority of patients were 25 to 40 years^{17,18}. Standard anti-tuberculosis therapy considered a gold standard treatment modality because of its high efficacy¹⁹. A study conducted by Ko et al²⁰ reported that patients with tuberculosis lymphadenopathy should be treated by standard anti-tuberculosis therapy recommended by WHO. They reported that there was no significant difference observed in term of recurrence rate between definitive and standard anti-tuberculosis therapy with p-value >0.05.

CONCLUSION

The frequency of tuberculosis cervical lymphadenitis is very high among cervical lymphadenitis patients. Ultrasound guided FNA biopsy plays an important role for the diagnosis and management of this chronic specific granulomatous disease. Anti-tuberculosis therapy is safe and effective treatment modalities and should be given as a first choice except those who need surgical intervention.

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