

ORIGINAL ARTICLE

Critical Analysis of Etiopathology of Cervical Lymphadenopathy in patients reporting to the Department of Surgery Chandka Medical College Hospital LarkanaNARGIS SHAIKH¹, AISHA SHAIKH², SAIRA FATIMA³, IBRAHIM ASGHAR⁴, KANWAL QURESHI⁵¹Consultant Surgeon Chandka Medical College Hospital, Larkana²Associate Professor Surgery SMBB Medical University Larkana³Associate Professor Surgery, SMBB Medical University Larkana⁴Consultant Surgeon, Chandka Medical College Hospital Larkana⁵Trainee Chandka Medical College LarkanaCorrespondence to: Dr. Saira Fatima, Email: sairafatimashaikh@yahoo.com, Cell: 03333952868**ABSTRACT****Introduction:** Nodes that are aberrant in their size, consistency, or number are referred to as lymphadenopathy.**Study Duration:** Current research was carried out at Surgery Department of Chandka Medical College (CMC) & Teaching Hospital, Larkana starting from March 2019 to September 2020.**Subjects & Methods:** After taking written informed consent, 162 patients was included in the study after fulfilling of the inclusion criteria. Chi square test was applied and P-value <0.05 was considered significant**Results:** The results of reactive/benign in our study were as out of 162 patients 54(33.3%) belongs to positive group and 108(66.7%) belongs to negative group. In tuberculous the frequency distribution results showed that 57(35.2%) positive and 105(64.8%) were negative. In causing factors the results of malignant frequency distribution were as out of 162 patients 51(31.5%) were positive and 111(68.5%) were negative.**Conclusion:** In conclusion, our study reveals a lower prevalence of malignancy, reactivity, and benign causes of cervical lymphadenopathy, and an increased prevalence of Tuberculosis as a cause of cervical lymphadenopathy in patients presenting to the surgery department at CMC Hospital in Larkana. To avoid lengthy delays in identification and treatment of numerous medical diseases, including potentially curable malignancies, we advocate for conducting biopsy early in the workup of cervical lymphadenopathy.**Keywords:** Cervical lymphadenopathy, lymphoma, Tuberculous. Etiopathology, Chandka Medical College**INTRODUCTION**

An abnormality in the size, consistency, or quantity of lymph nodes is known as lymphadenopathy. In a basic and clinically relevant system, lymphadenopathy is considered "generalised" if two or more lymph nodes are swollen, non-contiguous locations and "localised" if lymph nodes are enlarged in just one place. A differential diagnosis that fails to differentiate between localised and widespread lymphadenopathy is doomed to failure. About 75% of patients presenting to primary care with unexplained lymphadenopathy will have a localised form, whereas 25% will have a more diffuse form.^{1,2}

Cervical lymphadenopathy is the most prevalent type of lymphadenopathy, and it is frequently seen in outpatient settings. Benign/reactive causes account for 5.9%, tuberculous infections for 5.1%, and malignant tumours for 34.8%.³ In India, tuberculosis (TB) most frequently manifests outside of the lungs in the lymph nodes. The cervical nodes are the most prevalent location to experience this issue. The study conducted in India showed final diagnosis of all cervical lymph nodes after biopsy in 191 patients. Tuberculosis (38.7%), reactive nodes (37.6%), metastatic nodes (9.4%) were the most common etiologies.⁴

Even if there is absence of symptoms, it is cause for concern for both the patient and the doctor. Even though cervical lymphadenopathy is a frequent clinical issue, it can be difficult to diagnose. In order to implement effective treatment, it is crucial to arrive at a final diagnosis as soon as feasible during the evaluation process.⁵ Lymph node specimen analysis is the only surefire way to determine the underlying cause of lymphadenopathy, while a thorough physical examination and history can help narrow down the possibilities.⁶ open biopsy and Aspiration biopsy are two methods that can be used for this.⁷

Ultrasonography seems to have a sensitivity of 95.6% for detecting cervical lymph nodes, and more advanced high definition ultrasound can identify a cervical tumour measuring 2mm in diameter, albeit a tissue biopsy is still required for a definite diagnosis.⁶ In our system, cervical lymphadenopathy is a typical presentation to the emergency room. Clinicians struggle to have access to information on the likely causes of cervical lymphadenopathy because cervical lymphadenopathy has

received relatively little attention compared to peripheral lymphadenopathy.

The purpose of this study was to provide up-to-date information on the aetiology and proper diagnosis of cervical lymphadenopathy in asymptomatic patients. And to see which were the most common causes among local population, as to describe an effective protocols and measures to be taken in order to reduce the inappropriate delay in seeking definitive treatment among patients presenting with cervical lymphadenopathy at tertiary care CMC hospital Larkana.

METHODOLOGY

Current research was carried out at Surgery Department of Chandka Medical College (CMC) & Teaching Hospital, Larkana starting from March 2019 to September 2020. After taking written informed consent, 162 patients was included in the study after fulfilling of the inclusion criteria. By using WHO sample size calculator taking statistics for tuberculosis infection as 5.1% with margin of error as 3.5% the calculated sample size is 162.³ The inclusion criteria were; all patients who presented with enlarged cervical lymph nodes irrespective of duration and patients of either sex 16 to 60 years of age. The exclusion criteria were; Open discharging wounds at cervical lymph nodes, patients with generalized lymphadenopathy.

These patients were seen on OPD basis. These patients provided a thorough history, particularly information on their age, sex, and co-morbid illnesses and any past history for swellings in same region and any procedure carried out for them.

These included CBC, blood sugar, ESR, and tissue biopsy. Tissue biopsy was either incisional or excisional biopsy performed by a surgeon where tissue was collected and submitted for histopathological examination. The definitive cause of lymphadenopathy was based on reporting of tissue biopsy by pathologist for submitted cervical lymph node specimen. Confidentiality was maintained throughout the process as mentioned in the rules of ethical committee.

The data was entered and analyzed in statistical program SPSS version 20.0. Mean standard deviation was calculated for age and duration of disease. Simple frequency and percentage

was calculated for gender socioeconomic status, clinical features, mode of onset and cases of cervical lymphadenopathy. Stratification was done for each cause of cervical lymphadenopathy with respect to age, gender, mode of onset, socioeconomic status and clinical features.

RESULTS

The main aim of our study was to evaluate the different causes of cervical lymphadenopathy at tertiary care CMC hospital Larkana and to see which are the most common causes among local population, as to describe an effective protocols and measures to be taken in order to reduce the inappropriate delay in seeking definitive treatment among patients presenting with cervical lymphadenopathy at tertiary care CMC hospital Larkana.

Table-1: Stratification of Reactive/benign with respect to gender, age groups, socio economic status, duration of disease, Pain with swelling/lymph node and Fever along with swelling/ enlarge lymph node

		Reactive/ benign		Total	p value
		+ve	-ve		
Gender	Male	31	57	88	0.577
	Female	23	51	74	
Age groups	16-30 years	30.8%	69.2%	100.00%	0.363
		17	23	40	
	31-45 years	42.5%	57.5%	100.00%	
		13	31	44	
	46-60 years	29.5%	70.5%	100.00%	
		22	35	57	
Socio-Economic Status (SES)	Low (<20,000/month)	50.90%	49.10%	100.00%	0.047
	Middle (20-50,000/month)	35.20%	64.80%	100.00%	
	High (>50,000/month)	12	22	34	
	58.80%	41.20%	100.00%		
Duration	Acute (<6 weeks)	26	62	88	0.568
	47.70%	52.30%	100.00%		
	Chronic (>6 weeks)	28	46	74	
Pain with swelling/lymph node	Yes	27	57	84	0.09
	39.30%	60.70%	100.00%		
	No	27	51	78	
Fever along with swelling/enlarge lymph node	High grade (>102°F)	28	59	87	0.69
	47.10%	52.90%	100.00%		
	Low grade (<102°F)	26	49	75	
		44.00%	56.00%	100.00%	

Table-2: Stratification of tuberculous with respect to gender, age groups, socio economic status, duration of disease, Pain with swelling/lymph node and Fever along with swelling/ enlarge lymph node

		Tuberculous		Total	p value
		+ve	-ve		
Gender	Male	28	60	88	0.328
	Female	29	45	74	
Age groups	16-30 years	31.8%	68.2%	100.00%	0.497
		29	45	74	
	31-45 years	39.2%	60.8%	100.00%	
		15	25	40	
	46-60 years	52.60%	47.40%	100.00%	
		17	27	44	
Socio-Economic Status (SES)	Low (<20,000/month)	45.60%	54.40%	100.00%	0.603
	Middle (20-50,000/month)	25	46	71	
	High (>50,000/month)	14	20	34	
	55.90%	44.10%	100.00%		
Duration	Acute (<6 weeks)	33	55	88	0.438
	53.40%	46.60%	100.00%		
	Chronic (>6 weeks)	24	50	74	
Pain with swelling/lymph node	Yes	31	53	84	0.641
	52.40%	47.60%	100.00%		
	No	26	52	78	
Fever along with swelling/enlarge lymph node	High grade (>102°F)	30	57	87	0.744
	49.40%	50.60%	100.00%		
	Low grade (<102°F)	27	48	75	
		52.00%	48.00%	100.00%	

Table-3: Stratification of malignant with respect to gender, age groups, socio economic status, duration of disease, Pain with swelling/lymph node and Fever along with swelling/ enlarge lymph node

		Malignant		Total	p value
		+ve	-ve		
Gender	Male	29	59	88	0.628
	Female	22	52	74	
Age groups	16-30 years	29.7%	70.3%	100.00%	0.046
		29	49	78	
	31-45 years	52.60%	47.40%	100.00%	
		8	32	40	
	46-60 years	32.50%	67.50%	100.00%	
		14	30	44	
Socio-Economic Status (SES)	Low (<20,000/month)	34.10%	65.90%	100.00%	0.154
	Middle (20-50,000/month)	17	40	57	
	High (>50,000/month)	38.60%	61.40%	100.00%	
	26	45	71		
Duration	Acute (<6 weeks)	50.70%	49.30%	100.00%	0.15
	Chronic (>6 weeks)	8	26	34	
	36.50%	63.50%	100.00%		
Pain with swelling/lymph node	Yes	29	59	88	0.572
	47.70%	52.30%	100.00%		
	No	22	52	74	
Fever along with swelling/enlarge lymph node	High grade (>102°F)	26	58	84	0.986
	40.50%	59.50%	100.00%		
	Low grade (<102°F)	25	53	78	
		44.90%	55.10%	100.00%	

The frequency distribution of gender in our study as out of 162 patients, 88(54.3%) were males and 74(45.7%) were females. The frequency distribution of age groups in our study were as 78(48.1%) belonged to 16-30 years groups, 40(24.7%) belonged to 34-45 years age groups and 44(27.2%) belonged to 46-60 years age groups. Most of the patients belonged to 16-30 years age groups in our study.

In tuberculous, the frequency distribution results showed that, 57(35.2%) were positive and 105(64.8%) were negative. In causing factors, the results of malignant frequency distribution were as out of 162 patients, 51(31.5%) were positive and 111(68.5%) were negative. The minimum age was 16 and maximum age was 60 years. The mean HB in our study was 12.6 with standard deviation 2.01. The minimum value of Hb was 9.03 and the maximum value of Hb in our study was 15.9.

The Mean value of ESR in our study was 54.57 with standard deviation was 30.87. The minimum value of ESR was 2 and the maximum value was 104 in our study. In the results of stratification of malignant with respect to gender, socio-economic status, duration of disease, Pain with swelling/lymph node and Fever along with swelling/ enlarge lymph node, the p-values of chi-square were insignificant and the p-value for age groups was significant.

DISCUSSION

In nations where tuberculosis has a high incidence and prevalence, it poses a significant threat to public health. It is inoculable and represents the most common form of infectious lymphoid tissue illness. As a symptom, cervical lymphadenopathy can range from a mild local inflammatory response to more serious conditions like malignant lymphomas. Low-income countries like Pakistan, India, and Bangladesh have a higher rate of tuberculosis than do high-income countries.⁸⁻⁹

It has been discovered that the rate of tuberculosis is now almost seven times greater in immigrants than in natives in Germany, and that the majority of the immigrant group consists of Afghans, Pakistanis, and Indian nationals. This is due to poor hygienic practices, poverty, overcrowding, and high immigration from the neighbouring countries, particularly Afghanistan.¹⁰⁻¹¹

According to our findings, tuberculosis was the major cause of cervical lymphadenitis in the vast majority of patients. Similarly high rates of tuberculosis infection were seen in patients who had cervical lymphadenopathy in studies conducted in Pakistan.¹² Fifty-

one percent of those examined for cervical lymphadenopathy tested positive for tuberculosis, whereas 21.43% had symptoms of reactive hyperplasia.¹³ In another Pakistani investigation, conducted by Channa et al., FNAC or excisional biopsy revealed that 70% of patients suffering from cervical lymphadenopathy had tuberculosis.¹⁴

Also, among all occurrences of cervical lymphadenopathy, tuberculous lymphadenitis was present in roughly 68.9% of patients. 15 A Chinese study found that metastatic disease was the leading cause of cervical lymphadenopathy (37.5%), preceded by reactive lymphadenopathy, (27%) tuberculosis (28%) and lymphoma (7%).¹⁶

In another Korean study, 22.4% of cervical lymphadenopathy cases were caused by tuberculosis, while the remaining 22.4% were caused by non-specific lymphadenitis and 9.5% were caused by malignancies.¹⁷ Our results showed that women with cervical lymphadenopathies make up the vast majority of those seen in the outpatient clinic. Furthermore, a similar proportion of women in Pakistan who experienced cervical lymphadenopathy were reported in a separate study.¹⁸

One possible explanation for the disproportionately high rates of cervical lymphadenopathy and tuberculosis among Pakistani women is that the majority of women in the country prefer to remain or work inside their homes, where the closed environment. We found that 108 (62% of all patients) were between the ages of 21 and 40.

The most common age range for cervical lymphadenopathy, according to a study conducted in Pakistan, is between the ages of 13 and 40.¹⁹ This may be due to the fact that people in this age range are more likely to seek medical attention for their symptoms and are more likely to have fewer co-occurring conditions. Lymphadenopathy is the most prevalent type of peripheral lymphadenopathy and a typical clinical description in OPD. Its numerous causes range from benign/reactive (5.9%) to tuberculous infections (5.1%) to malignant (34.8%).³ The study conducted in India showed final diagnosis of all cervical lymph nodes after biopsy in 191 patients. Tuberculosis (38.7%), reactive nodes (37.6%), metastatic nodes (9.4%) were the most common etiologies.³

The data was collected from a single tertiary care facility in the city of 'Larkana' because of financial and logistical constraints. Because of the small sample size and the fact that the participants were drawn from a single city, the findings of this study cannot be extrapolated to the entire population of Pakistan.

CONCLUSION

In conclusion, our study reveals a lower prevalence of malignancy, reactivity, and benign causes of cervical lymphadenopathy, and an increased prevalence of Tuberculosis as a cause of cervical lymphadenopathy in patients presenting to the surgery department at CMC Hospital in Larkana. To avoid lengthy delays in identification and treatment of numerous medical diseases,

including potentially curable malignancies, we advocate for conducting biopsy early in the workup of cervical lymphadenopathy.

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