

**A STUDY OF THE CAUSES OF CERVICAL LYMPHADENOPATHY IN THE GENERAL POPULATION BETWEEN THE AGE GROUP OF 20 YRS TO 70 YRS ATTENDING THE SURGICAL DEPARTMENT IN A TERTIARY HOSPITAL: A RESEARCH ARTICLE**Vikram Yogish<sup>1</sup>, P. S. Venkateswaran<sup>2</sup>, C. Rajkamal<sup>3</sup>**HOW TO CITE THIS ARTICLE:**

Vikram Yogish, P. S. Venkateswaran, C. Rajkamal. "A Study of The Causes of Cervical Lymphadenopathy in the General Population between the Age Group of 20 yrs to 70 yrs attending the Surgical department in a Tertiary Hospital: A Research Article". Journal of Evolution of Medical and Dental Sciences 2015; Vol. 4, Issue 85, October 22; Page: 14852-14862, DOI: 10.14260/jemds/2015/2112

**ABSTRACT: BACKGROUND:** This study was done to determine the causes of cervical lymphadenopathy in a particular age group of people who attended the surgical department in a tertiary care hospital. **AIM:** To determine the most common cause of cervical lymphadenopathy in the general population between the age group of 20yrs to 70yrs attending the surgical department in a tertiary hospital. **METHODS:** A total of 100 patients were studied during the period from May 2012 to April 2015. Various factors were taken into account such as, the age of the patient, the place from where they came from and the various clinical investigations done. **RESULTS:** The causes of cervical lymphadenopathy due to various causes such as tuberculosis, non-specific lymphadenitis, secondaries and lymphoma were studied. The results were then tabulated. During the course of the study, tuberculosis (59%), was found to be the commonest cause of cervical lymphadenopathy, followed by non-specific lymphadenitis (24%), secondary deposits (12%) and lymphomas (5%). **CONCLUSION:** This research article shows that, tuberculosis is still found to be the commonest cause of cervical lymphadenopathy in the general population in our country. Thus cervical lymphadenopathy requires meticulous examination and should not be ignored.

**KEYWORDS:** Cervical lymphadenopathy, Tuberculosis, Non-specific lymphadenitis, Secondary deposits, lymphomas.

**INTRODUCTION:** Cervical lymph node enlargement is one of the most common swellings in the neck. Lymphnode enlargement is seen in many diseases and may be due to a localized pathology or a part of a generalized disease.<sup>[1-6]</sup> The cervical lymph nodes may be affected due to a head and neck disease or as a manifestation from a distant organ. Due to this, the various clinical investigations and knowledge about the lymphatic drainage of different areas are important.<sup>[7-10]</sup> Inflammation of the cervical lymph nodes is a common entity in developing and underdeveloped countries. In India, though many cases are due to tuberculosis, one must always remember the fact that cervical lymph node enlargement can be secondary to an underlying malignancy.

In this country, tuberculosis is still rampant and the presence of matted nodes or the presence of a pulmonary focus of infection warrants thorough investigation of the patient for the presence of tuberculosis. The histopathological evidence of tuberculosis on biopsy, fine needle aspiration cytology, or demonstration of AFB in culture is very important. FNAC has emerged as an important tool that is cost-effective and simple to perform. It can be done as an out-patient procedure and does not require much preparation of the patient. FNAC remains a very important investigation for differentiating benign from malignant cervical lymphadenopathy. Cervical lymphadenopathy is a condition that requires meticulous examination of the patient and should not be ignored.

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**AIM OF THE STUDY:** To determine the causes of cervical lymphadenopathy in the general population between the age group of 20yrs to 70yrs attending the surgical department in a tertiary hospital and to determine the most common cause of cervical lymphadenopathy in the above mentioned group from the data obtained during the course of the study.

**MATERIALS AND METHODS:** All the patients in the study attended the surgical department and were meticulously examined and investigations such as FNAC, blood investigations, sputum examinations and chest x-rays were done.

**Inclusion Criteria:**

- Patients attending the surgical out-patient department, who are diagnosed to have cervical lymphadenopathy at the time of their first visit.
- Patients between the age group of 20 yrs to 70 yrs.
- A thorough clinical history of the patient was taken. History of chronic cough, discharging sinus, pyrexia, loss of weight and loss of appetite along with cervical lymphadenopathy were some of the important signs and symptoms looked for.<sup>[11-16]</sup>

**Exclusion Criteria:**

- Patients who have generalized lymphadenopathy at the time of their first visit to the surgical out-patient department.
- Patients below 20 yrs and patients above 70 yrs of age.

**Factors Analyzed:**

- Age
- Gender
- Disease

**Investigations Done:**

- Urine examination: To rule out diabetes mellitus. Tuberculosis commonly occurs in the presence of diabetes mellitus.
- Blood: Total count of white blood cells and differential count as well as the peripheral smear examination are helpful in elucidating neoplastic lesions. A relative lymphocytosis is seen in patients with tuberculosis.
- ESR: ESR is elevated in tuberculosis and in many other conditions as well.
- Haemoglobin: This gives an idea about the general health of the patient as well as anaemia if present.
- Chest X-ray: This is useful to find any calcified nodes, and soft tissue swellings in the lungs and in the mediastinum. It also helps to find out areas of fibrosis, consolidation or pleural effusion within the lungs.
- ENT examination: To determine the primary focus.
- UGI endoscopy: To determine any primary pathology in the upper gastro intestinal tract.
- Bronchoscopy: To determine the primary focus in the lungs.
- USG scan: To determine any abdominal or pelvic primaries.

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- CT scan: To determine the primary in head,neck, and in the chest. It is also used to assess the extent of lymph node involvement.
- Fine Needle Aspiration Cytology (FNAC): Cytological diagnosis is based on the cellular characteristics (nuclear size, chromatin architecture, nucleolus, etc.) and the degree of cohesion of cells (reduced in cancer patients). These cytology smears are made on glass slides and fixed with isopropyl alcohol prior to examination by the cytologist. The stains most commonly used are the Giemsa and the Papanicolaou stains, but it is important to stress that many of the special stains used in histopathology can be used for the evaluation of the cytological materials.

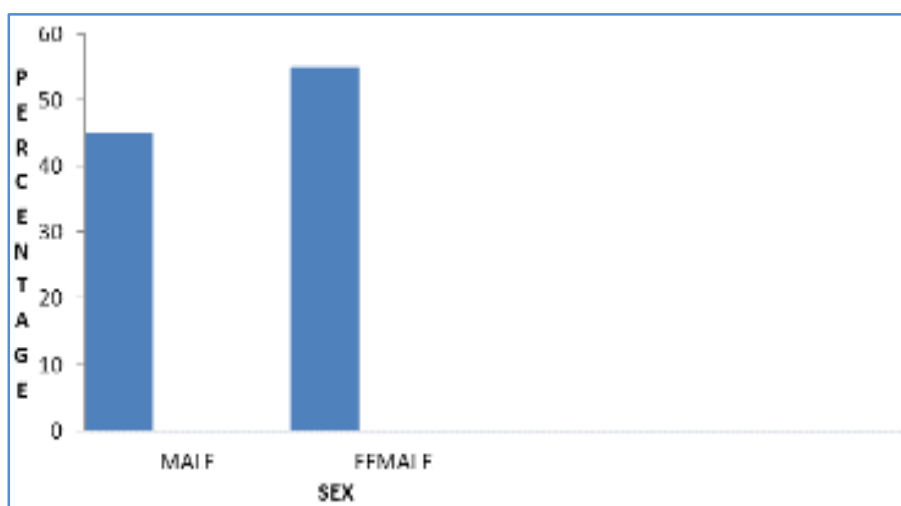
**OBSERVATION:** This study was based on 100 patients with cervical lymphadenopathy. The patients who attended the surgical department and referred from various wards for opinion and biopsy procedures were subjected to detailed study.

Those who attended the surgical department with cervical lymphadenopathy were given a course of antibiotics. Those who were not responding to therapy for more than a week after treatment and those who showed an increase in size and involvement of more number of lymph nodes irrespective of treatment were utilized for this study. After thorough clinical examination, they were subjected to laboratory and radiological investigations. For confirmation of diagnosis FNAC was done. If the results were inconclusive, then excision biopsy of the lymph node was done under local or general anaesthesia depending upon the patient's condition.

Sex of the Patient	No. of Patients Affected	Percentage
Male	45	45%
Female	55	55%

**Table 1: Sex wise incidence of cervical lymphadenopathy**

According to this table, it was found in this study that cervical lymphadenopathy was found to affect women more than men. This was found particularly among people living in the rural areas.



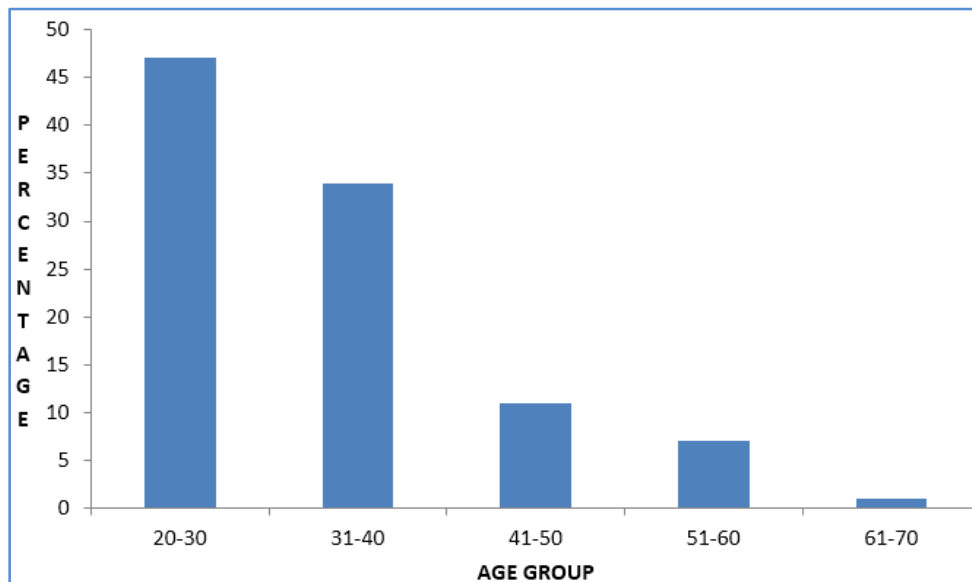
**Graph 1: Sex wise incidence of cervical lymphadenopathy**

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Age Group (Yrs.)	No. of Patients	Percentage
20-30	47	47%
31-40	34	34%
41-50	11	11%
51-60	7	7%
61-70	1	1%

**Table 2: Age wise incidence of cervical lymphadenopathy**

According to this table, in the study, cervically mphadenopathy most commonly occurred between the age group of 20 to 40 years, and the elderly age group were found to be affected the least.



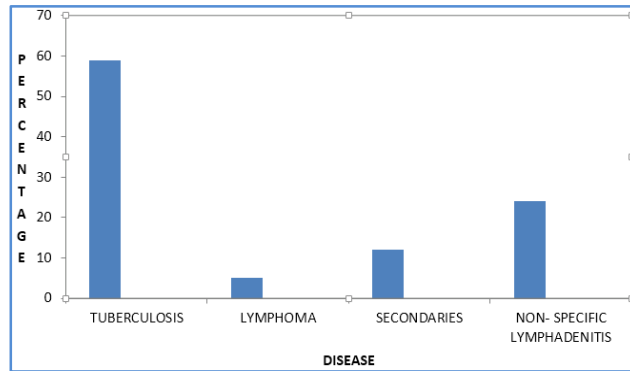
**Graph 2: Age wise incidence of cervical lymphadenopathy**

Disease	No. of Patients	Percentage
Tuberculosis	59	59%
Lymphoma	5	5%
Secondaries	12	12%
Non -specific lymphadenitis	24	24%

**Table 3: Disease wise incidence of cervicallymphadenopathy**

According to this table, tuberculosis was found to be the commonest cause of cervically mphadenitis. Due to poverty, and its associated factors like overcrowding, malnutrition, low educational standards, public ignorance and the alarming spread of HIV, the incidence of tuberculosis seems to be high. The resistance of the mycobacterium to many drugs and poor compliance of patients may also be important factors.

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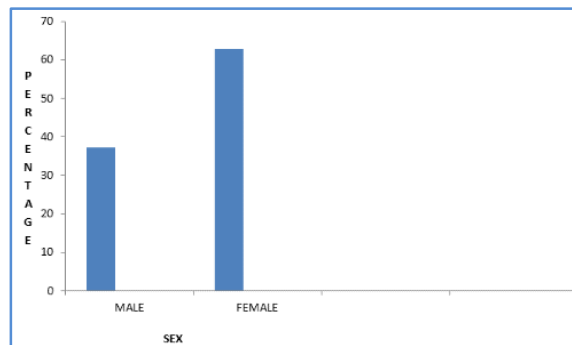
**Graph 3: Disease wise incidence of cervical lymphadenopathy**

Number of patients = 59

Sex of the Patient	No. of cases	Percentage
Male	22	37.28%
Female	37	62.71%

**Table 4: Sex wise incidence of tuberculosis**

From the above table, it was found in this study that tuberculosis affected women more commonly. It may be due to malnutrition which was found to be more common in women, and as a sequelae to decreased immunity in that particular population.



**Graph 4: Sex wise incidence of tuberculosis**

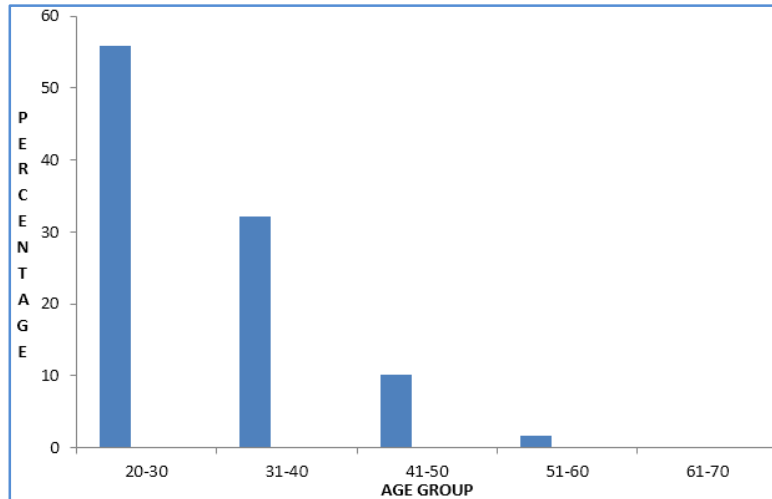
Number of patients = 59

Age Group (yrs)	No. of Patients	Percentage
20-30	33	55.93%
31-40	19	32.20%
41-50	6	10.16%
51-60	1	1.69%
61-70	-	-

**Table 5: Age wise incidence of tuberculosis**

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From the above table, it was found in this study that cervical lymphadenitis is due to tuberculosis commonly affected the younger and the middle age group people. Subclinical infection produces immunity and this may be there as on for the falling incidence of tuberculosis in the elderly age group.

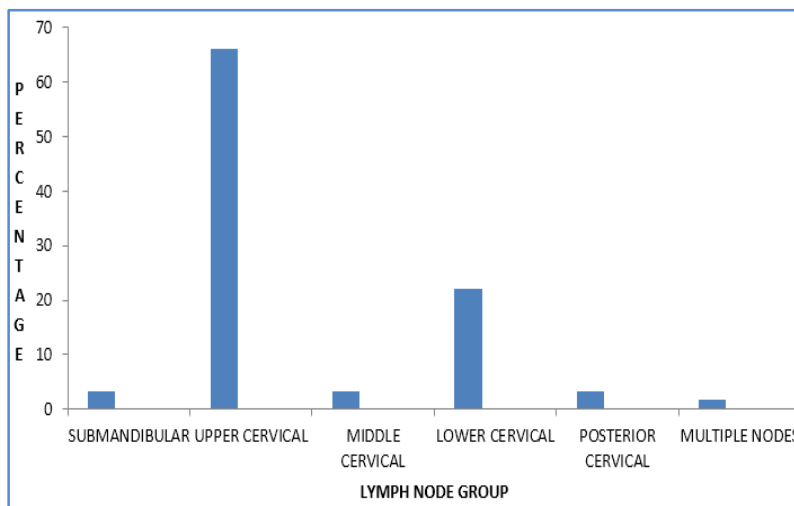


**Graph 5: Age wise incidence of tuberculosis**

Number of patients = 59

Lymphnode Group	No. of cases	Percentage
Submandibular	2	3.38%
Upper cervical	39	66.10%
Middle cervical	2	3.38%
Lower cervical	13	22.03%
Posterior cervical	2	3.38%
Multiple nodes	1	1.69%

**Table 6: Lymph node groups involved in tuberculosis**



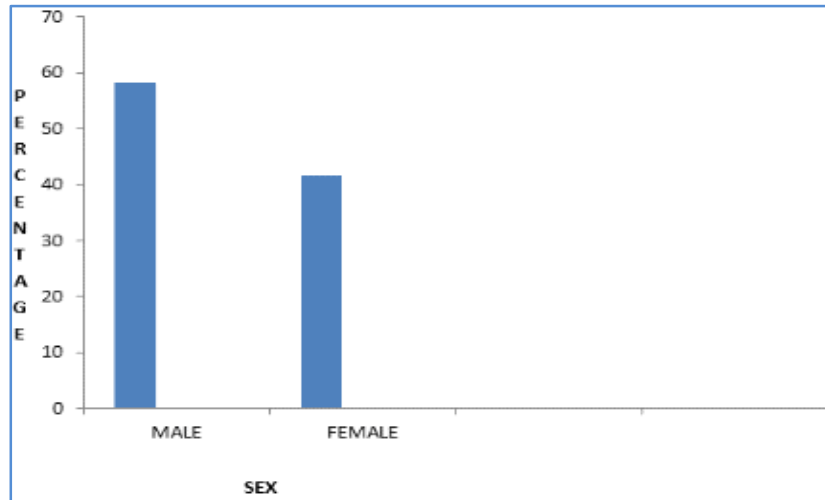
**Graph 6: Lymph node groups involved in tuberculosis**

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Number of patients= 5

Sex of the patient	No. of patients	Percentage
Male	3	60%
Female	2	40%

**Table 7: Sex wise incidence of Lymphoma patients**

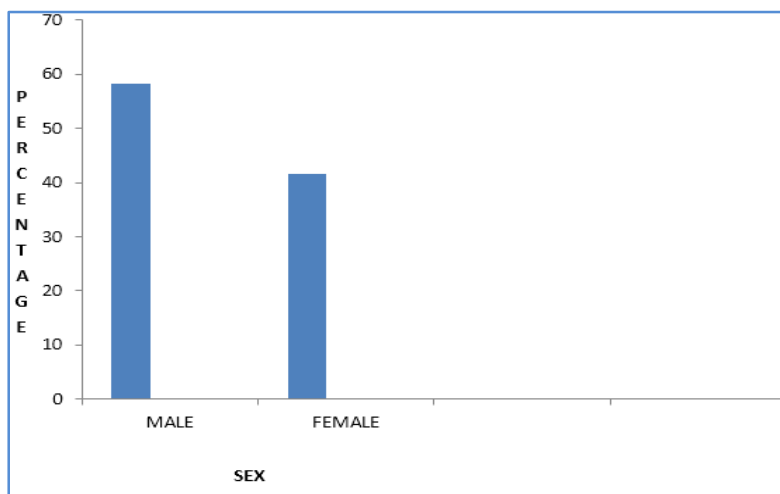


**Graph 7: Sex wise incidence of Lymphoma patients**

Number of patients= 12

Sex of the patient	No. of patients	Percentage
Male	7	58.33%
Female	5	41.66%

**Table 8: Sex wise incidence of secondaries**



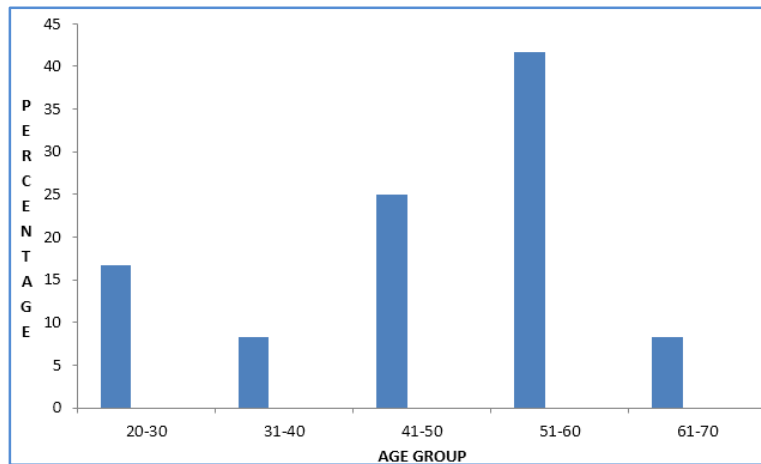
**Graph 8: Sex wise incidence of secondaries**

Number of patients = 12

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Age Group (yrs)	No. of Patients	Percentage
20-30	2	16.66%
31-40	1	8.33%
41-50	3	25%
51-60	5	41.66%
61-70	1	8.33%

**Table 9: Age wise incidence of secondaries**

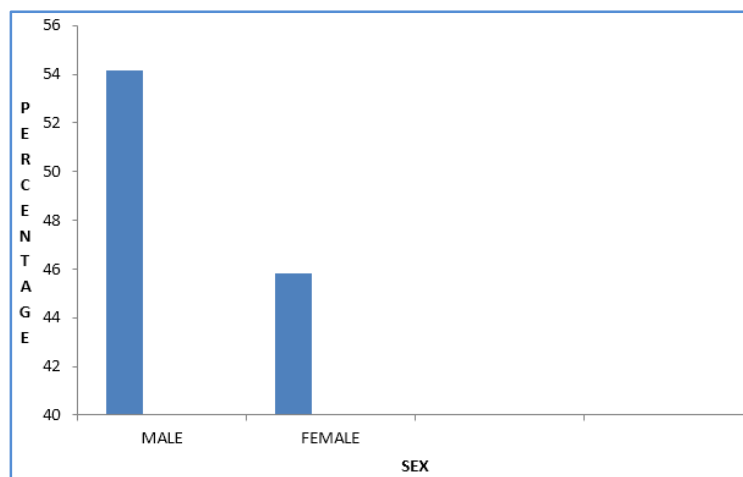


**Graph 9: Age wise incidence of secondaries**

Number of patients = 24

Sex of the patient	No. of patients	Percentage
Male	13	54.16%
Female	11	45.83%

**Table 10: Sex wise incidence of non-specific lymphadenitis**



**Graph 10: Sex wise incidence of non-specific lymphadenitis**

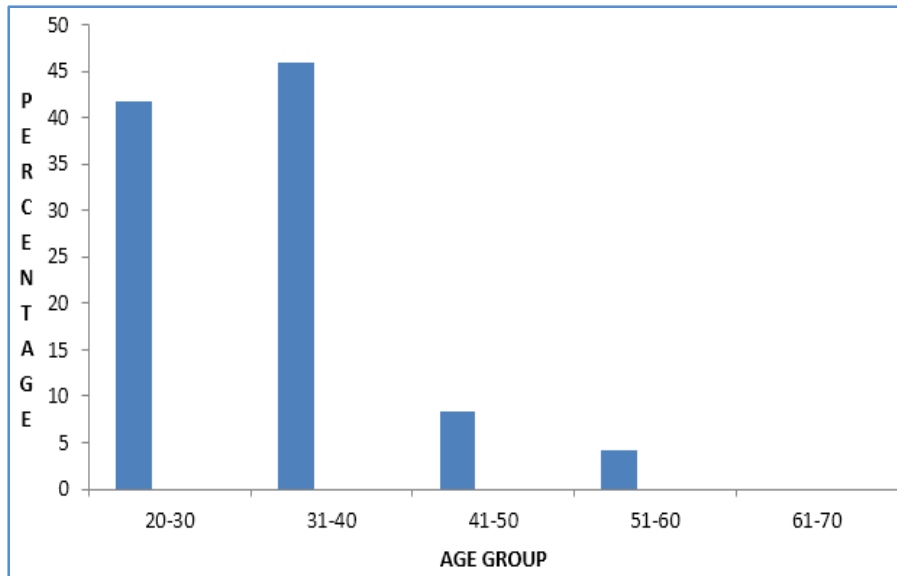
Number of patients=24



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Age Group(yrs)	No. of Patients	Percentage
20-30	10	41.66%
31-40	11	45.83%
41-50	2	8.33%
51-60	1	4.16%
61-70	-	-

**Table 11: Age wise incidence of non-specific lymphadenitis**



**Graph 11: Age wise incidence of non-specific lymphadenitis lymphadenitis tuberculosis**

### DISCUSSION:

- A) Tuberculosis:** Patients were followed up from 9 weeks to 1 year with a regular follow up schedule of once a month. During the follow up period, the patients were allowed to undergo thorough clinical examination. In this follow up, 70% of the patients got improvement in their general condition. The size of the gland got reduced in 65% of patients during follow up.
- B) Non-specific lymphadenitis:** All the patients with non-specific lymphadenitis were treated with antibiotics. The nodes regressed in size within two months of antibiotic therapy.
- C) Secondaries:** Out of the 12 patients, 5 patients had CA stomach and palliative anterior gastro jejunostomy was done with pre and post-operative chemotherapy. 4 patients had CA thyroid for which total thyroidectomy was done with modified radical neck dissection. 3 patients had CA breast for which modified radical mastectomy was done followed by chemotherapy.
- D) Lymphoma:** Out of the 5 patients, debulking of the tumour was done in one case and then referred for radiotherapy. The other four cases were referred to the oncology department for radiotherapy.

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**CONCLUSION:** This study was based on the examination of 100 patients with cervical lymphadenopathy during the period from May 2012 to April 2015. The study brought out the following facts.

Tuberculosis was found to be the commonest cause of cervical lymphadenopathy (59%), followed by non-specific lymphadenitis (24%), secondary deposits (12%), and lymphomas (5%).

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