



## MEDIASTINAL TUMORS - A COMPREHENSIVE 3 YEAR ANALYSIS IN A TERTIARY CARE CENTER

**Dr. Deepti Ramakrishnan**

MD Pathology, Associate Professor, Amala Institute of Medical Sciences, Thrissur, Kerala

**Dr. Lekha.K. Nair\***

MD Pathology, Associate Professor, Amala Institute of Medical Sciences, Thrissur, Kerala \*Corresponding Author

**Dr. Joy Augustine**

MD Pathology, Professor & HOD, Amala Institute of Medical Sciences, Thrissur, Kerala

**Dr. Govind. R. Pisharody**

Resident in Pathology, Amala Institute of Medical Sciences, Thrissur, Kerala

### ABSTRACT

Mediastinal lesions are difficult to diagnose and treat. Most of these lesions show similar radiographic appearances. Explorative techniques and histopathological examinations often with immunohistochemical studies are essential for final diagnosis. In our study we analyzed a total of 28 cases over a period of three years. The maximum number of cases fell in the age group above 60 yrs. Males were most commonly affected with Non Hodgkin lymphoma being the most common tumour in our study. Anterior mediastinum was most commonly involved.

**KEYWORDS** : Mediastinum, Non Hodgkin Lymphoma

### Introduction

Mediastinum is the part of thoracic cavity which is located between pleural cavities. It is enclosed by the sternum anteriorly and spine posteriorly and extends from thoracic inlet to the diaphragm. It is traditionally divided into superior and inferior, anterior, middle and posterior compartments. This is important pathologically as various neoplasms show predilection for different compartments. The relative frequencies of lesions also vary according to the age group. Since most of these lesions show similar radiographic appearances, explorative techniques and histopathological examinations are essential for final diagnosis.

Core needle, fine needle aspiration, trucut biopsy and open excision biopsy are the techniques commonly used for the diagnosis of these lesions. In our study we analyzed a total of 28 cases over a period of three years.

### Material and methods

We collected the trucut needle biopsies and open excision biopsies of all mediastinal tumors received in our department from 2012 to 2015 (3 yrs). All the biopsies with adequate material and in which the morphology of cells were clearly identifiable without any crush artifact were taken up for the study. The biopsies with insufficient material, with crush artifact and non representative sample were excluded from the study. The H & E stained representative sections were analyzed individually by 2 different pathologists and a morphological diagnosis was arrived. Immunohistochemistry slides were also reviewed.

### Results

In our study the maximum number of cases fell in the age group above 60 yrs (32.14%). The next group was 41-50 yrs and 55-60 yrs with the same incidence (14.29%). Least common was under 20 yrs with 10.17% incidence.

In our study males were more affected with 67.8% incidence. Most of the lesions involved anterior compartment (75%). Rest was in the posterior compartment. Among various lesions Non Hodgkin lymphoma was the most common (21.43%) followed by equal incidence of thymoma AB, thymoma B and carcinoma (17.86%). The other lesions were germ cell tumours, Hodgkin lymphoma (7.14%) thymoma A and poorly differentiated thymic carcinoma (3.17%).

### Discussion

We have studied a total of 28 cases in a period of 3 years in our

institution. Age range in our study was 15-68 yrs with mean being 34.71. Mean age in a similar study by Kaeki.S et al<sup>(1)</sup> was 35.5 yrs. In a study by Ramakanth et al<sup>(2)</sup> the mean age was 45.5 yrs and it was 44.8 in a study by HJ Gayatri Devi et al<sup>(3)</sup>.

Our study showed that males were more commonly affected (19 cases, 67.8%). This was comparable with the study of Ramakanth et al<sup>(2)</sup> where out of 139 cases 116 were males. Another study by Chandra P Shrivastava et al<sup>(4)</sup> also showed similar incidence in males (1.9:1).

The compartment most involved in our study was anterior compartment (95%). In the study by Karki.S et al<sup>(1)</sup> 70.3% were in the anterior mediastinum. In the study by Chandra P Shrivastava et al<sup>(4)</sup> anterior mediastinum involvement was 72%. Study by Preeti Sharma et al<sup>(5)</sup> also showed favoured anterior mediastinum involvement. In a study by Aram Baram et al<sup>(6)</sup> 59 out of 85 patients had anterior mediastinal lesions.

While classifying lesions as malignant or benign in our study out of 28 cases 15 were malignant (53.6%). In a similar study by Ramakanth et al<sup>(2)</sup> 68.1% were malignant. Various lesions were encountered as the pathology of which Non Hodgkin lymphoma was the most common. (93%) followed by Thymoma. This can be compared with Aram Baram et al<sup>(6)</sup> study with lymphoma predominance -94%, Thymic lesion 24.7%, Germ cell tumour 11.76%. In the study by Ramakanth<sup>(6)</sup>, however metastatic carcinomas were most common (37.4%). Non Hodgkin lymphoma was the second most commonly encountered lesion closely followed by Hodgkin lymphoma.

### Conclusion

1. Mediastinal lesions are a complex category with late presentation, difficulty in access and varied pathology
2. Males are most commonly affected with Non Hodgkin lymphoma being the most common tumour in our study
3. Anterior mediastinum was most commonly involved
4. Definitive diagnosis can lead to definitive therapy either surgical or medical and greatly enhance the survival rate.

### References

1. Analysis of mediastinal lesions; a study of 27 cases. S.Karki,S Chalise ; Journal of pathology of Nepal(2011)- nepjol.info
2. Diagnostic evaluation of mediastinal lesions : Analysis of 144 cases. Ramakanth Dixit et al, Lung India. 2017 Jul - Aug;34(4):341-348
3. Retrospective analysis of mediastinal lesions- a tertiary center experience HJ Gayathri Devi.SSRG International Journal of Medical Science (SSRG-IJMS)September 2015Vol 2(9): 5-13

4. Mediastinal tumors; A clinicopathological analysis. Chandra P Shrivastava etal Asian Cardiovascular and Thoracic Annals 2006
5. Clinicopathological analysis of mediastinal lesions. A mixed bag of non Neoplastic and Neoplastic etiologies. Preeti Sharma etal .Turk Patoloji Derg 2017,33:37-46.
6. Mediastinal masses; Retrospective single center based study. Aram Barem, Zirak Anwar Tayab, journal of cancer science and therapy,2016;8:10