



**ORIGINAL RESEARCH PAPER**

**Radiodiagnosis**

**ROLE OF MULTIDETECTOR COMPUTED TOMOGRAPHY IN EVALUATING MEDIASTINAL MASSES FOR DETECTION AND LOCALISATION TO DECIDE FURTHER MANAGEMENT**

**KEY WORDS:** Computed Tomography(ct), Mediastinal Mass.

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**ABSTRACT**

**BACKGROUND & OBJECTIVES :** The Objective of this study is to determine the accuracy of the diagnosis of mediastinal masses by Computed Tomography. This study reviews the variety of the disease processes involving the mediastinum. Emphasis is based on detection of mediastinal masses and its localisation with its incidence in varied age and gender groups.

**MATERIALS AND METHODS :** Total Number of 40 cases referred to the department of RadioDiagnosis for clinically suspected Mediastinal masses at MGM Medical college and Hospital over a period of one years were included in the study.

**RESULTS :** In our study, males predilection was seen. Also, posterior mediastinum was the most commonly involved, followed by superior mediastinum, anterior mediastinum and middle mediastinum .

**CONCLUSION :** From the above results, we conclude that computed tomography definitely has a major role to play in the evaluation of a mediastinal mass regarding the compartmental distribution, mass effect upon adjacent structure and provisional diagnosis.

**INTRODUCTION :**

The Objective of this study is to determine the accuracy of the diagnosis of mediastinal masses by Computed Tomography. This study reviews the variety of the disease processes involving the mediastinum. Emphasis is based on detection of mediastinal masses and its localisation with its incidence in varied age and gender groups.

The multitude of diseases affecting the mediastinum varies considerably, ranging from tumors (benign to extremely malignant), cysts, vascular anomalies, lymph node masses and mediastinal fibrosis. Hence every possible effort has to be made to arrive at a specific diagnosis at the earliest. Computed Tomography has revolutionized in the diagnosis of mediastinal lesions. It is one of the finest non-invasive imaging modalities available for imaging of the thorax. Computed Tomography has good spatial resolution and shorter imaging time, besides being less expensive and being more widely available. It is capable of defining the precise anatomical details and characterizing the nature, site and extent of the disease. Co-existing lung abnormalities and calcification within the lesions are better appreciated on CT. CT gives much more detail of extent and involvement of disease.

**AIMS AND OBJECTIVES**

1. To determine the differential diagnosis of Mediastinal masses by Computed Tomography.
2. To study the distribution of mediastinal masses.

**MATERIALS AND METHODS**

All cases referred to the department of RadioDiagnosis for clinically suspected Mediastinal masses at Dr.MGM Medical college and Hospital over a period of one years were included in the study.

**Sample size:** 40 cases.

**Type of study:** Prospective Study.

**INCLUSION CRITERIA:**

Patients with symptoms of clinically suspected Mediastinal Masses investigated by CT scan.

**EXCLUSION CRITERIA:**

3. Patients with prior treatment elsewhere on presentation.
4. Recurrent mediastinal masses after treatment.

5. Patient with abnormal renal function test and contrast sensitivity.

All the cases were studied on a TOSHIBA AQUILLION computed tomography machine.

**OBSERVATIONS AND RESULT :  
AGEWISE AND GENDERWISE DISTRIBUTION :**

Age	Male	Female	Total
0 – 15	2	3	5
16 – 30	5	3	8
31 – 45	9	5	14
46 – 60	4	2	6
>61	3	4	7
Total	23	17	40

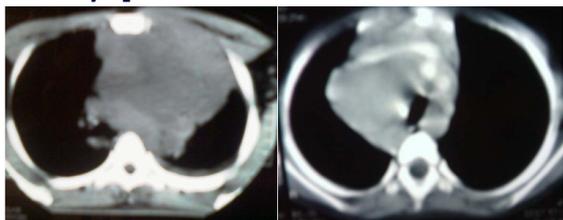
**LOCATION WISE DISTRIBUTION OF MEDIASTINAL MASSES:**

Compartment	Lesions	No. of Cases	Percentage
Superior Mediastinal lesions	1. Thymoma	3	7.5
	2. Thymic Ca.	1	2.5
	3. Ca. Thyroid	2	5
	4. Ca. Lung with MLN	1	2.5
	5. Lymphoma	2	5
	6. Teratoma	2	5
Anterior Mediastinal lesions	1. Thymoma	2	5
	2. Thymic Ca.	1	2.5
	3. Lymphoma	3	7.5
	4. Ca. Lung with MLN	1	2.5
	5. GCT	1	2.5
	6. Teratoma	2	5
Middle Mediastinal Lesions	1. Teratoma	1	2.5
	2. Ca. oesophagus	4	10
	3. Leiomyoma of oesophagus	2	5
Posterior Mediastinal lesions	1. Schwannoma	1	2.5
	2. Neuroendocrine Tumor	1	2.5
	3. NB	2	5

	4. Osteoclastoma	1	2.5
	5. Leiomyoma of oesophagus	4	10
	6. Teratoma	2	5
	7. Ganglioneuroma	1	2.5
	Total	40	100

**IMAGES**

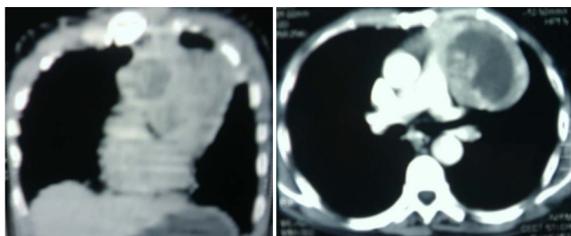
**Case 1 : Lymphoma**



Axial CT scan of thorax of different patients complaining of cough shows, lobulated, soft tissue attenuating mass at superior and anterior mediastinal compartments appearing hypodense on non- contrast study. On post contrast study it shows homogenous enhancement. Mediastinal vessels encased.

**CASE 2:**

**2. THYMOMA**



CT scan of thorax of different patients shows, lobulated, soft tissue attenuating mass at superior mediastinal compartment appearing hypodense on non- contrast study. On post contrast study it shows heterogenous contrast enhancement. Variable appearance of thymoma as thick walled cyst.

**DISCUSSION**

Computed tomography imaging techniques have contributed significantly to the detection, characterization and staging of mediastinal masses. The initial detection of mediastinal masses can be achieved mainly by chest radiograph (Frontal and Lateral views) and once found, they can be localized, further characterized and staged by CT.

However the main objective is to determine if the lesion is malignant or benign, as accordingly the further management depends. Our study comprises a total of 40 patients from in-patient department and is conducted for a period of 1 year.

In our study, there is a gender predilection noted with 23 males affected as against 17 females. Also age group of 31 – 45 years showed maximum cases ( 14).

In our study, posterior mediastinum was the most commonly involved compartment (n=12,30%), followed by superior mediastinum (n=11, 27.5%) anterior mediastinum (n=10, 25%) and middle mediastinum (n=7, 17.5%). Lymphoma is most common lesion in anterior mediastinum (n=3, 7.5%) and superior mediastinum (n=3, 7.5%), ca oesophagus (n=4, 10%) in middle mediastinum and LM of oesophagus (n=4,10%) in posterior mediastinum.

So we conclude that computed tomography definitely has a major role to play in the evaluation of a mediastinal mass regarding the compartmental distribution, mass effect upon adjacent structure and provisional diagnosis.

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