

Mediastinal Cancer

I. GROSS DESCRIPTION

Specimen

- percutaneous or thoracoscopic fine needle aspirate/(needle core) biopsy/resection (cervical thymectomy or thoracotomy).
- number of fragments and their length (mm).
- size (cm) and weight (g).

Tumour

Site

- mediastinal boundaries:

lateral	pleural cavities
anterior	sternum
posterior	spine
superior	thoracic inlet
inferior	diaphragm.
- superior:
 - thymoma and thymic cysts
 - malignant lymphoma
 - nodular goitre thyroid
 - ectopic parathyroid lesions.
- anterior:
 - thymoma (75% of cases) and thymic cysts
 - carcinoid tumours
 - malignant lymphoma
 - germ cell tumours
 - metastatic carcinoma
 - thyroid/parathyroid lesions
 - mesenchymal lesions—lipoma, lymphangioma, haemangioma.
- middle:
 - metastatic carcinoma
 - malignant lymphoma
 - pericardial/bronchogenic cysts
 - primary cardiac tumours.
- posterior:

neural tumours—neurilemmoma, neurofibroma, ganglioneuroma, ganglioneuroblastoma, malignant schwannoma, neuroblastoma, paraganglioma
gastroenteric cysts.

Size

— length × width × depth (cm) or maximum tumour dimension (cm).

Appearance

— circumscribed/encapsulated/infiltrative/fleshy/pale/pigmented/cystic/necrotic/haemorrhagic, e.g. thymoma can be encapsulated or infiltrative, solid/cystic or multiloculated, whereas lymphoma is fleshy and pale ± necrosis and sclerosis. Teratoma can be cystic, solid, necrotic or haemorrhagic. Neurilemmoma is encapsulated ± cystic degeneration.

Edge

— circumscribed/irregular.

2. HISTOLOGICAL TYPE***Metastatic carcinoma***

- the commonest malignant mediastinal tumour (particularly in the middle mediastinum) and can mimic a primary thymic tumour both clinically and radiologically, e.g. small cell carcinoma lung can have a small primary lesion with extensive direct or nodal spread to the mediastinum.
- direct spread: lung, oesophagus, pleura, chest wall, vertebra, trachea.
- distant spread: breast, thyroid, nasopharynx, larynx, kidney, prostate, testicular (or ovarian) germ cell tumour, malignant melanoma.

Identify a residual nodal rim of lymphoid tissue at the tumour edge to indicate metastasis.

Malignant lymphoma

- 10–15% of mediastinal masses in the adult and occurs in decreasing order of frequency in the anterior, superior and middle mediastinum. It is the commonest primary neoplasm of the middle mediastinum. Thymic or nodal based. Specific thymic/mediastinal features are:

Hodgkin's disease: young females. Nodular sclerosis in type and fibrotic/lobulated ± thymic epithelial cysts with lacunar cells (CD15/30 positive). Radiotherapy and prognosis depend on the stage of disease.

Lymphoblastic lymphoma: acute dyspnoea in adolescent males. Mediastinal plus cervical/supraclavicular and axillary disease; ± Hassall's corpuscles and can therefore mimic thymoma. Small to medium-sized lymphoid cells, apoptosis, tdt positive—usually T cell (CD 3) and high (>95%) Ki-67 index.