



NOTES

THYMUS NEOPLASIA

GENERALLY, WHAT IS IT?

PATHOLOGY & CAUSES

- Tumors in thymus (anterior mediastinum)

TYPES

- Classified by cell from which tumors arise

Thymoma, thymic cancers (most common)

- Thymic epithelial cells

Neuroendocrine tumors

- Carcinoids

Others

- Thymic hyperplasia, cysts, thymolipoma

COMPLICATIONS

- Bioactive substances → paraneoplastic syndromes

SIGNS & SYMPTOMS

- Can be asymptomatic
- Chest pain, cough, dyspnea, paraneoplastic syndromes

DIAGNOSIS

DIAGNOSTIC IMAGING

- Chest X-ray, CT scan

LAB RESULTS

- Fine needle aspiration/core biopsy

TREATMENT

MEDICATIONS

- Chemotherapy/radiation therapy/both

SURGERY

- Resection

THYMOMA

osms.it/thymoma

PATHOLOGY & CAUSES

- Rare tumor from epithelial cells (thymus)
- Benign/malignant
- Localization
 - Anterior superior mediastinum (most frequently)
 - Atypical position (neck, thyroid, pulmonary hilum)
- Macroscopic characteristics
 - Lobulated
 - Firm
 - Gray-white
 - Containing cystic spaces/calcifications/hemorrhages

TYPES

- Extension (Masaoka staging systems)

Type I

- Encapsulated (non-invasive)

Type II

- Invasion through capsula

Type III

- Invasion into adjacent organs

Type IV

- Local and distant implantations (metastases)

COMPLICATIONS

- Mass effect (e.g. cardiac tamponade, respiratory problems); humoral effects (e.g. paraneoplastic syndromes), metastases, recurrences

SIGNS & SYMPTOMS

- Asymptomatic; found incidentally during imaging studies
- Weight loss

- Fatigue
- Compression of mediastinal structures
 - Esophagus → dysphagia
 - Airways → cough, dyspnea
 - Recurrent laryngeal nerve → hoarseness
 - Superior vena cava (SVC) → SVC syndrome (face, arms edema; venous distension in neck, chest, arms)
 - Chest pain

Paraneoplastic syndromes

- Myasthenia gravis (most frequent, 30%)
 - Muscle weakness
 - Drooping eyelid (ptosis), double vision (diplopia)
 - Dysphagia (difficulty swallowing)
- Pure red cells aplasia
- Hypogammaglobulinemia
- Graves disease
- Pernicious anemia
- Systemic lupus erythematosus
- Sjogren syndrome
- Dermatomyositis-polymyositis
- Cushing syndrome

DIAGNOSIS

DIAGNOSTIC IMAGING

Chest X-ray

- Hyperdense mediastinal mass, calcifications

CT scan

- Well-defined attenuation, cystic components, calcifications

MRI, nuclear medicine studies

LAB RESULTS

- Fine-needle aspiration/core biopsy

TREATMENT

MEDICATIONS

- Surgical resection of thymus (thymectomy)

OTHER INTERVENTIONS

- Pre/post-operative chemotherapy/
radiotherapy (advanced Masaoka stages)

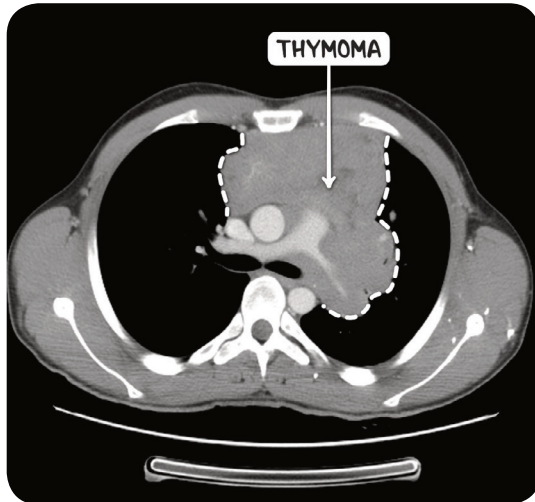


Figure 60.1 A CT scan in the axial plane demonstrating a large thymoma occupying the superior and anterior mediastinum.

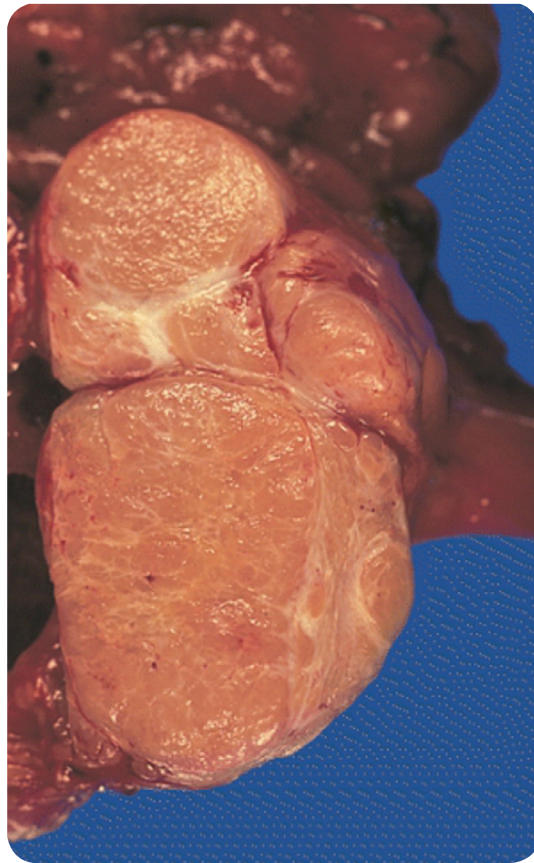


Figure 60.2 The gross pathology of a thymoma.