CHAPTER 19

THYMOMA AND STAGING

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INTRODUCTION

The thymus gland is seated in a central location of anterior mediastinum, however its physiologic role is not fully understood to this day. The tumors of the thymus gland known as tymomas are relatively uncommon among all neoplasms. Patients with thymic tumors are usually diagnosed shortly after its clinical presentation. Due to various histological structure of thymomas, there are different approaches to their classification. In this review, we wanted to present thymic neoplasms and their histological types, and staging.

EPIDEMIOLOGY

In adults, thymomas and thymic carcinomas are most common neoplasms of thymus. The incidence of thymic tumors is likely to be 2.2 to 2.6/million/yr for thymomas and less for thymic carcinomas (0.3 to 0.6/million/yr) [1]. Thymic neuroendocrine tumors are even less common. Thymomas have been found to occur in patients of all ages. Most thymoma patients are between 40 and 60 years of age, and thymic neoplasms have mostly similar incidence for men and women. There's a peak around 30 to 40 years of age in patients with myasthenia graves (MG) and 60 to 70 years of age in those without MG (primarily women) in the series with more than 50 patients [1]. Among anterior mediastinal masses, retrospective studies have shown the approximate relative proportion of these tumors to be: thymoma 35%, benign thymic lesions 5%, lymphoma 25% (Hodgkin 13%, non-Hodgkin 12%), benign teratoma 10%, malignant germ cell 10% (seminoma 4%, nonseminomatous germ cell tumor 7%) thyroid and other endocrine tumors 15% [2]. There are no known risk factors, although there happen to have associations with myasthenia gravis and other paraneoplastic syndromes.

CLINICAL PRESENTATION

Thymomas may occur at any age. Patients with thymic tumors are relatively evenly distributed among age cohorts, gender, and the presence or absence of myasthenia gravis symptoms [1]. Thymic neoplasms typically present as local symptoms, symptoms of a paraneoplastic syndrome or may be found an incidental on imaging in an asymptomatic patient. Most of the cases are tend to be asymptomatic especially those with early stage. Local symptoms are more likely because of the compression of the mass, chest pain, cough, shortness of breath, paralysis of a hemidiaphragm as a result of involvement of a phrenic nerve, and hoarseness caused by involvement of a recurrent laryngeal nerve and or superior vena

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nosis was worse following complete resection and has higher recurrence rates [14]. Masaoka stage IV disease found to have continuing mortality, with a 10-year survival rate of 47% [14]. Resection of tumor extending along one or both phrenic nerves is challenging since iatrogenic phrenic nerve injury can result in hemidiaphragm paralysis and decreased respiratory function which should be predicted preoperatively based on measuring pulmonary function tests. Although there is not enough trials demonstrating the benefits of CT scan, guidelines from the National Comprehensive Cancer Network (NCCN), which recommend CT every six months for two years, then annually for five years for thymic carcinoma, and annually for 10 years for thymoma [16]. We also should mention that patients with thymic neoplasms have increased risk for developing secondary malignancies.Surveillance, Epidemiology, and End Results (SEER) database, the risk was significantly increased for B cell non-Hodgkin lymphoma, gastrointestinal cancers, and soft tissue sarcoes with distant metastasis Systemic therapy, RT, or chemoradiotherapy may be indicated. Furthermore such treatments can be offered to patients who are medically unfit for surgery due to age or comorbidity. Debulking surgery may also be considered to selected patients with unresectable disease, so continued involvement of a multidisciplinary team, including a thoracic surgeon. This approach may improve survival outcomes [18].

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