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Most thymomas are benign. In a collection of 15 series, the rate of malignancy averaged 33%.

When muscular weakness (myasthenia gravis) occurs in conjunction with thymoma, the cause is a reduction in acetylcholine receptors at the neuromuscular junction. Antibodies to the acetylcholine receptors are found in more than 85% of patients with myasthenia gravis associated with thymoma and it is believed that there is thymic involvement in this autoimmune response to the acetylcholine receptors. In addition to myasthenia gravis, many other syndromes are associated with thymoma, including connective tissue diseases, blood disorders, and Cushing's syndrome. When Cushing's syndrome is seen, it is secondary to an APUD or "carcinoid" tumor of the thymus that produces corticotropin. The other disorders associated with thymic tumors are secondary to autoimmune processes.

Any patient with a thymic tumor should undergo operation to establish a diagnosis, to resect a potential malignant tumor, and possibly to palliate myasthenia gravis if it is present. In addition to thymoma, carcinoid, lymphoma, teratoma, and squamous cell cancer can originate in the thymus. Medical therapy, which is moderately successful in alleviating the symptoms of muscle weakness in myasthenia gravis, is aimed at amplifying the muscle response to acetylcholine by using anticholinesterase drugs such as pyridostigmine and neostigmine and in using immunosuppressive drugs to suppress autoimmune effects. Thymectomy provides long-term improvement in symptoms of myasthenia gravis in 57% to 86% of patients with myasthenia gravis associated with or without thymoma. However, improvement after thymectomy may take several years.

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