Microscopic thymoma and myasthenia gravis

F Puglisi, N Finato, L Mariuzzi, C Marchini, G Floretti, C A Beltrami

Abstract
A rare case of microscopically sized thymoma is described in a 56 year old man suffering from myasthenia gravis. Historical examination of the surgically removed thymus showed the presence of several epithelial thymoma-like islands. As controls, 100 thymuses obtained from consecutive necropsies were sampled: 4% of these cases showed epithelial islands. This case is further proof that "microscopic thymoma" is a true pathological entity and suggests that every thymus removed from myasthenic patients in which there is no macroscopic evidence of thymoma should be examined microscopically on serial sections.

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Keywords: Microscopic thymoma, myasthenia gravis.

The first pathological report on microscopic thymoma, by Rosai and Levine, was published in 1976.1 The authors described a microscopic lesion (1 mm in diameter) having the histological features of a thymoma which was occasionally discovered in thymuses removed during cardiac surgery. Recently, Pescarmona et al2 reported three cases of microscopic thymoma in thymuses removed from patients suffering from myasthenia gravis, an autoimmune disease which often occurs in the presence of thymic abnormalities. Here we present a case of a patient suffering from myasthenia gravis whose thymus contained several foci of microscopic thymoma.

Case report
A 56 year old man with diabetes mellitus was admitted to a general hospital in September 1993 with a four year history of generalised weakness and mild fatigability of the skeletal muscles. No diagnosis was made. In December the patient was referred to the neurological department of the University of Udine because the symptoms were rapidly worsening. On examination, he had bilateral ptosis, diplopia, and easy fatigability, mostly of the muscles of the trunk and the lower limbs. A diagnosis of myasthenia gravis was made on the basis of the clinical findings, an anticholinesterase test, repetitive nerve stimulation (40% reduction in the amplitude of the evoked muscle action potential), and positive assay for acetylcholine receptor antibodies (0-10 pmol/ml). In view of the possibility of an associated thymic disorder, a computed tomographic scan was performed. No mediastinal enlargement was discovered. In February 1994 the patient had a surgical thymectomy by the sternum splitting approach. After thymectomy, there was progressive clinical improvement over a follow up period of seven months. Anticholinesterase agents were used as medical treatment before and after surgery.

Pathological findings
The thymus weighed 30 g. Macroscopically it was a lobulated soft yellow gland. As controls we examined 100 thymuses obtained from consecutive necropsies to verify the presence of "thymoma-like" epithelial solid nests. The donors were 41 females, age range <1 to 90 years (mean=68), and 59 males, age range <1 to 95 years (mean=65). Thirty five samples of the myasthenic patient's thymus and 3-10 samples from each of the control thymuses were processed for conventional histology. Tissue sections were stained with haematoxylin and eosin, PAS, and Gomori for reticulum; in order to identify epithelial islands, the sections were also stained for cytokeratin with monoclonal antibody (CAM 5.2, Becton Dickinson), using the avidin-biotin peroxidase technique. The thymus of the patient with myasthenia gravis showed a variable degree of involution. Several epithelial nests of round-oval cells, with nuclear dispersed chromatin and nucleoli, were histologically detected. Mitoses and nuclear atypia were not found (figure). The observed epithelial lesions were consistent with foci of microscopic thymoma. To determine their dimensions, we measured all the immunohistochemically identified epithelial areas by an image analyser (IBAS2000, Kontron). The morphometric data showed that the largest island has an equivalent area of 272 x 71 mm.

An epithelial nest histologically consistent with microscopic thymoma; it was mainly composed of oval to round cells with clear chromatin and definite nucleoli. Haematoxylin and eosin, × 295.
Evaluation of the API-Campy System in the biochemical identification of hippurate negative campylobacter strains isolated from faeces

J Reina, M J Ros, A Serra

Abstract
The aim was to evaluate the efficacy of the API-Campy system in the biochemical identification of 62 hippurate negative campylobacter strains isolated from the faeces. The strains were identified manually as 34 nalidixic acid susceptible C. coli (NAS), 20 nalidixic acid resistant C. coli (NAR), and eight C. lari. The 34 strains of NAS C. coli were identified as such by the API-Campy system. Of the 20 strains of NAR C. coli, 15 (75%) were correctly identified by the commercial system. None of the five NAR C. coli strains which were also erythromycin resistant was identified as such by the system. The eight C. lari strains could not be identified by the API-Campy system because the bionumber obtained
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Correction: Reproductive system and abdominal organs.

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