features, a diagnosis of clear cell ependymoma (WHO grade II) was made. At present, she is on follow-up and CT after 2 years has not revealed any recurrence.

Rarely, supratentorial ependymomas may occur outside the ventricular system, particularly in children. It is likely that in such a situation, they arise from ependymal cell rests (embryonic ependymal remnants) in brain parenchyma.\(^1\) Supratentorial tumors often exhibit cystic components and extensive calcification may be observed.\(^2\) Microscopically, diagnostic features are perivascular pseudorosettes and ependymal rosettes. Mitotic figures are rare. The cells display a clear perinuclear halo akin to oligodendroglioma and the tumor can mimic oligodendroglioma, central neurocytoma and clear cell renal carcinoma. Although clear cells resembling oligodendrocytes are known to occur in ependymomas,\(^1\) tumors composed primarily of such cells are rare. Clear cell ependymomas (CCEs) are well delineated tumors characterized by sharp circumscription, hypervascularity as reflected by contrast enhancement on CT and MRI. These tumors have a predilection for supratentorial region in children; nine of the 10 children with CCEs reported by Fouladi et al had supratentorial tumors. Histologically, CCEs show reactivity to GFAP, S-100 and vimentin. Moreover, ependymomas lack synaptophysin reactivity, which is seen more often in central neurocytoma. Electron microscopy shows complex intercellular junctions, surface microvilli and microrosette formation, thus underscoring the importance of EM in diagnosis. Unlike the central neurocytomas and glioneurocytomas, CCEs lack secretory granules, vesicles and synapses.

While the issue of radiotherapy in ependymomas in children is still not completely settled, it is generally advised to give radiotherapy even after complete removal.\(^3\) Without radiotherapy, these tumors can have early recurrence and extraneural metastases.\(^4\) Roncaroli et al\(^5\) recently reported three cases of brain surface ependymoma, one of whom was a child. No radiation therapy was given and the outcome was correlated to the completeness of excision and the tumor grade. There is no known prognostic significance attached to clear-cell change in ependymomas.\(^6\)

CCEs are unusual variants of ependymomas. Ependymomas occurring supratentorially without any connection to the ventricular system are rare. The tumors are slow growing, cystic and can be completely excised. Histopathological appearances are typical and the diagnosis can be further confirmed by immunohistochemistry.

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A rare combination of thymic tumor: Radiologically invisible thymolipoma associated with myasthenia gravis

Sir,

Thymolipomas are rare benign slow-growing neoplasms.\(^1\) These tumors are usually asymptomatic and are detected incidentally. We have been reported only 28 cases who have MG associated with thymolipoma, including 18 cases English and 10 cases Japanese.\(^2\) Radiological modalities demonstrate the classic combination of fat and soft tissue elements of thymolipoma and establish the tumor attachment to the anatomic region of the thymus.\(^3\) However, small thymolipomas in patients with MG are sometimes not detected. Here, we report a patient with MG who had a thymolipoma that was not detected radiologically. The patient improved within a few months after extended thymectomy.

A 32-year-old woman was admitted to the neurology clinic with a complaint of unilateral ptosis 1 year ago. She also had a 4-month history of mildly proximal muscle weakness and ease of fatigue.

Figure 3: Histopathology (H/E, 40x) showing pseudorosettes
Neurological examination revealed ptosis on the left, incomplete abduction of both eyes on lateral gaze, mild facial diplegia, and depressed gag reflex and mild weakness of the proximal muscles of upper extremities bilaterally (Osserman classification type IIA). A prostigmine test was markedly positive. The repetitive stimulation on electromyography was normal, and acetylcholine receptor antibodies were absent. Chest radiography and computed tomography revealed no tumor or other abnormalities [Figure 1]. Pyridostigmine bromide was started at 180 mg/day and then the doses administered were 360 mg/day for the relief of the symptoms. Treatment with these doses led to a substantial improvement of the symptoms. At the end of the first year, general weakness, especially in the muscles of mastication, neck and shoulders, forced her to consult again. At that moment, electromyographical signs turned to be positive for myasthenia. Titration of acetylcholine receptor antibodies and imaging modalities were not repeated. A decision was taken to perform thymectomy. Three-phase plasma-exchange was performed on the patient, and then she underwent median sternotomy. An extended thymectomy was performed. The thymic and precardial fatty tissue in the region of the left and right phrenic nerves, the diaphragm, and the innominate vein was totally excised. The resected mass of tissue measured 10 x 9 x 2 cm and weighted 56 g. Macroscopic examination of the specimen revealed a 5 x 4 x 2 cm soft, yellow, lobulated mass with a thin capsule. But, the weight of the tumor mass was only 31 g. The histopathological diagnosis was thymolipoma, which consisted of mature fatty tissue and thymic structures, including Hassall’s corpuscles but no germinai centers [Figure 2]. The symptoms associated with MG gradually improved, and the patient’s medication doses of pyridostigmine bromide were reduced to 120 mg/day after 3 months of follow-up. In the follow-up period 23 months following thymectomy, she was found to be doing well and is still taking anticholinesterase medication at the diminished dose (80 mg/day) without any clear neuromuscular symptoms.

Thymolipoma is an uncommon mediastinal tumor, and association of thymolipoma with MG is rare.\textsuperscript{[1]} Thymolipomas are most frequently diagnosed in the second or third decade of life, whereas the mean age of patients diagnosed with thymolipoma associated with MG is 40-50 years.\textsuperscript{[1]} In contrast, our patient was 32 years old. Thymolipomas are asymptomatic in roughly 50% of cases, and approximately 6% of affected patients have symptoms associated with MG.\textsuperscript{[1]} Most symptoms in patients with thymolipomas are related to compression of adjacent mediastinal organs. Reports in the literature document a wide variation in weight for thymolipomas, ranging from 55 g to 16 kg.\textsuperscript{[3,4]} Previous studies suggested that thymolipomas associated with MG are smaller than thymolipomas without MG - as in the case of our patient, the tumor weight was 31 g.\textsuperscript{[1,3,4]}

Thymolipoma can usually be demonstrated with chest CT and/or magnetic resonance imaging.\textsuperscript{[5]} However, in some patients who have thymolipoma associated with MG, there is no radiological evidence of the tumor. In our case, although thoracic CT showed no mass, extended thymectomy was performed, and pathological examination of the specimen confirmed the diagnosis of thymolipoma. This surgical intervention is the recommended procedure for patients with MG who have a thymic mass, regardless of whether it is radiologically detectable.\textsuperscript{[5]} Similar to previously published cases, our patient’s MG-associated symptoms improved significantly after surgery.

Thymolipomas are not always detected with imaging techniques. In cases of thymolipoma associated with MG, removal of this rare lesion via extended thymectomy can greatly benefit the patients.

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