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Case Report

Rare Co- Association of Sarcoidosis and Myasthenia Gravis: A Case Report and Review of the Literature

Kalita Jyoti Prasad[1], Hussain Masaraf[2], Saikia Manuj Kumar[3], Jaya Mishra[4],SarmaShri Ram[5], Barman Bhupen[6]

[1]Assistant Professor, Department of Cardio Thoracic and Vascular Surgery, North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences (NEIGRIHMS), Shillong, Meghalaya, India, 793018.
[2]Assistant Professor, Department of Neurology, North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences (NEIGRIHMS), Shillong, Meghalaya, India, 793018.
[3]Professor and Head, Department of Cardio Thoracic and Vascular Surgery, North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences (NEIGRIHMS), Shillong, Meghalaya, India, 793018.
[4]Associate Professor, Department of Pathology, North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences (NEIGRIHMS), Shillong, Meghalaya, India, 793018.
[5]Associate Professor, Department of Neurology, North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences (NEIGRIHMS), Shillong, Meghalaya, India, 793018.
[6]Associate Professor, Department of General Medicine, North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences (NEIGRIHMS), Shillong, Meghalaya, India, 793018.

***Corresponding author**
Kalita Jyoti Prasad
Email: emailtojpk@gmail.com

Abstract: Myasthenia gravis complicated by sarcoidosis is rare. Whether this complication represents the association between the two diseases or a simple coincidence is unclear. Here we present an adult patient who was diagnosed of myasthenia gravis on the basis of typical clinical symptoms, characteristic positive anti-acetylcholine receptor antibodies and response to appropriate medications. The patient underwent thymectomy and histopathological examination revealed noncaseating granuloma, typical of sarcoidosis. Though the combination of myasthenia gravis and sarcoidosis in a single patient is extremely rare, it arouse the curiosity that some of the immunologic disorders to appear together in certain individuals.
Keywords: Myasthenia Gravis, Thymoma, Thymectomy.

INTRODUCTION

Myasthenia gravis complicated by sarcoidosis is rare [1]. Whether this complication represents the association between the two diseases or a mere coincidence is unclear. Here we present an interesting case of myasthenia gravis that was later detected to have sarcoidosis on histopathology of thymectomy sample.

THE CASE REPORT

A 37 years old lady presented with drooping of eyelids which had characteristic of diurnal variation since 1 year. She also had history of difficulty in chewing for long time. However there was no history of fatigability. Her physical examination revealed ptosis time of less than 1 minute and arm abduction time was less than 5 minutes. The cold pack test was positive.

On investigation of her routine blood tests, the liver and renal function tests were normal. Acetylcholine receptor antibody level was high (27.23nmol/L). Rhematoid factor and anti-nuclear antibody tests were negative. Repetitive Nerve Stimulation (RNS) revealed decremental response. Contrast enhanced Computed Tomography scan of thorax showed normal thymus with fatty replacement.

A diagnosis of myasthenia gravis was made on the basis of above findings. In view of ocular involvement with limb involvement, thymectomy was planned. Post thymectomy histopathology of the specimen (Fig-1) revealed features of sarcoidosis, in form of non caseous granulomatous lesion.

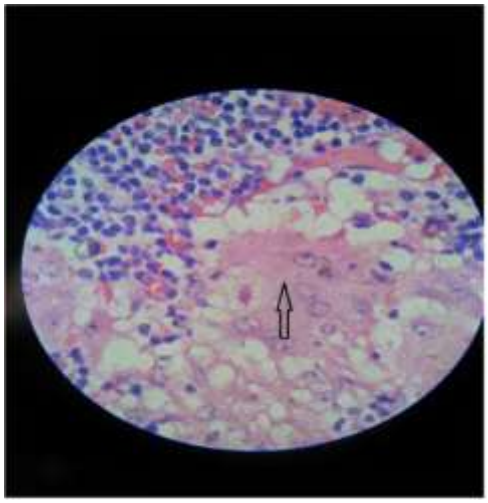

Fig-1: Post thymectomy histopathology of the specimen revealed features of non caseous granulomatous lesion (Black arrow) suggestive of of sarcoidosis.

On subsequent evaluation the serum level of angiotensin converting enzyme level was however normal. Her postoperative period was uneventful. She was discharged with low dose of anticholinesterase drug and steroid.

DISCUSSION

Myasthenia gravis is an autoimmune disease induced by appearance of antiacetylcholine receptor antibody. T cell abnormality is observed in the peripheral blood and germinal center formation is frequently observed in thymus tissue[2]. Myasthenia gravis is closely associated with thymus abnormalities. Whereas, sarcoidosis is a systemic disease charaterised by formation of epitheloid cell granulomatous lesion, not accompanied by necrosis, and its pathogenesis is unclear[3]. Studies have shown that sarcoidosis is due to T-cell mediated immune response.

It can therefore be speculated that myasthenia gravis as an unknown cause, activates the T cell line, inducing formation of sarcoid lesion. Sarcoidosis may present at any stage of myasthenia gravis[4]. Our patient did not have any clinical other systemic feature of sarcoidosis.

There is only 15% of patients of myasthenia gravis have abnormal thymus (which may increase to 35% in older patients) and approximately 30–50% of patients with thymoma have myasthenia gravis[4,5].

Ocular symptoms like diplopia and ptosis are the commonest clinical presentations in myasthenia gravis which is seen in more than 50% of patients[4]. Antiacetylcholine receptor antibodies are elevated in 98% of patients with myasthenia gravis[4]. Our patient had ptosois, reduced arm abduction time and elevated antiacetylcholine receptor antibody.

In literature, the documentation of thymoma with or witout myasthenia gravis and sarcoidosis is very limited[4]. Only 5% of patients with sarcoidosis do have complication of neurosarcoidosis and usual neurological manifestations are due to basal meningitis[6]. Cranial neuropathies affect facial and optic nerve. Clinical ocular and other neurological eaxamination was normal in our patient except the presence of ptosis.

The surgical thymectomy is strongly recommended for myasthenia gravis patients with thymoma. Though the clinical efficacy of thymectomy in other situations has been questioned, the *b*eneficial effect is strongly documented in certain literatures[7]. Post operative decrease in requirement medication is observed. Female sexand mild to moderate generalized myasthenia gravisare the primary prognostic factor determining the outcome. Intraoperatively the thymus was normal looking and consistancy in our patient and there was no evidence of any involvement of chronic disease process.

CONCLUSION:

A rare combination of myasthenia gravis and sarcoidosis may be present. This may be co-incidental, but it may be due to common immunologic mechanism too. Ptosis could be the cranial nerve manifestation neurosarcoidosis of certain rare group of patient of myasthenia gravis.

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