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RESEARCH ARTICLE

POST THYMECTOMY, THYMOMA RECURRENCE PRESENTED WITH MYASTHENIC CRISIS AFTER THREE DECADES IN MYASTHENIA GRAVIS PATIENT - A RARE CASE REPORT

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ABSTRACT

Background: Thymomas are rare epithelial tumors of the anterior mediastinum frequently associated with myasthenia gravis (MG)[1]. Although recurrence is typically seen within a decade of resection, late recurrences have been described[2]. Very late recurrence after 30 years is extremely rare, and presentation with myasthenic crisis is rarer still[5, 6]. **Case Presentation:** We present a case of a 65-year-old female with MG, diagnosed at the of age 35, who underwent complete thymectomy for WHO type B2 thymoma. She remained clinically stable on low-dose treatment. Three decades later, she presented with respiratory failure, bulbar weakness, and generalized fatigability. She was diagnosed with myasthenic crisis and put on ventilatory support. Imaging studies revealed an anterior mediastinal mass; biopsy confirmed recurrent thymoma. **Conclusion**: This case highlights the potential for extremely late recurrence of thymoma and the need for clinical vigilance in MG patients presenting with crisis, even decades after surgical remission. Long-term or lifelong follow-up may be required.

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INTRODUCTION

Thymoma is the most common anterior mediastinal tumor in adults and is known for its strong association with autoimmune conditions[9,10], particularly myasthenia gravis (MG), a chronic autoimmune neuromuscular disorder. Up to 50% of thymoma patients exhibit MG, while 10–15% of MG patients have thymoma[1]. The standard treatment of choice for thymoma is surgical resection. Complete thymectomy provides long-term survival and often improves MG symptoms. While most recurrences occur within 10 years, very late recurrence (>20 years) is rare, and recurrence after 30 years is exceptional [2]. Myasthenic crisis—a life-threatening exacerbation of MG characterized by respiratory failure—is an uncommon but severe manifestation, especially in long-standing, stable MG. Herein, we describe a rare case of thymoma recurrence 30 years post-thymectomy in a 65-year-old woman on treatment for MG, who presented in myasthenic crisis.

CASE PRESENTATION

A 65-year-old woman presented to the emergency department with progressive fatigue, dysphagia, slurred speech, dyspnea, chewing difficulty and double vision in both eyes for one month which got aggravated on routine activities and got relived on rest. In the early morning patient's symptoms were mild and got aggravated as the day progressed. Gradually she developed other symptoms followed by respiratory distress.

Past Medical History: At the age 35, she was diagnosed with generalized MG based on clinical features and positive acetylcholine receptor antibodies. CECT Thorax (Fig.-1)at that time showed an anterior mediastinal soft tissue mass.EMG NCV Studies revealed positive decremental response for repetitive stimuli study done at 3HZ/sec frequency. She underwent extended trans-sternal thymectomy. Histopathology revealed WHO type B2 thymoma, Masaoka stage I, with complete capsular resection. Postoperative course was uneventful. She remained on low-dose pyridostigmine (60 mg BID) and azathioprine (50 mg daily). Her symptoms remained mild and stable for 30 years, and she was on routine follow-up since then.

On Examination: On examination, she had bilateral ptosis, nasal speech, and paradoxical breathing. Oxygen saturation was 82% on room air, respiratory rate was 30/min, and arterial blood gas analysis revealed type II respiratory failure. CBC and other routine hemogram were found to be normal, ESR

and CRP were not raised and blood culture including other markers of infection were found to negative.

Emergency Management: She was then admitted to the intensive care unit (ICU) and put on ventilatory support for impending respiratory failure, and diagnosed with myasthenic crisis. She was then treated with IV Corticosteroids and was maintained on her baseline MG medications. She was then weaned off from ventilatory support successfully on day 5 and transitioned to oral feeding by day 7. Surgical management of the recurrent tumor was deferred due to recent crisis; she was discharged with plans for elective resection after stabilization.

Investigations

Chest radiograph showed a widened mediastinum.

CECT thorax (Fig.-2)

Heterogeneously enhancing soft tissue density mass measuring approx (80*43x41) mm with internal necrotic area & internal calcification is seen in superior mediastinum towards left side. Anteriorly the mass is seen reaching upto 1st left sterno-costal junction. Medially the mass is seen infiltrating mediastinal pleura. Medially the mass is seen having loss of fat plane with arch of aorta, left subclavian vein, pulmonary trunk & left main pulmonary artery. The mass is seen encasing segmental branch of left pulmonary artery.

Suggestive of Thymoma recurrence.

CT-guided biopsy (Fig.-3):

Macroscopic Examination-Single soft tissue mass labelled as thymic mass shows grey white along with areas of hemorrhage on cut surface. Microscopic Examination - revealed epithelial cells arranged in nests and lobules with abundant lymphocytesconfirming recurrent type AB thymoma. There were no signs of thymic carcinoma or dedifferentiation.

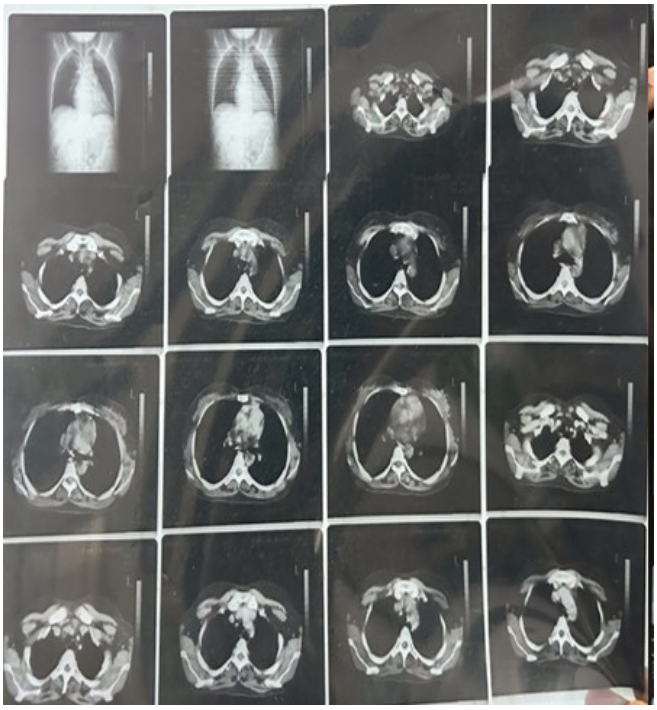

Fig. 1. CECT Thorax done in 1995 Showing thymoma (mediastinal mass)

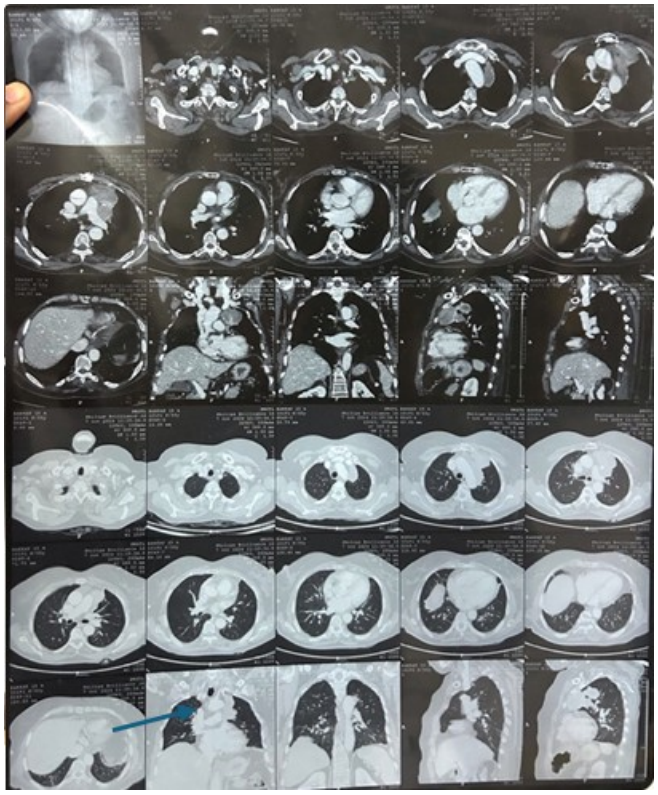

Fig. 2. CECT Thorax showing Recurrence of thymoma (current CT Scan)

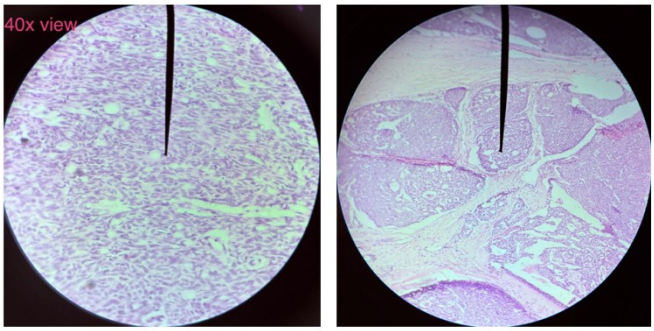

Fig. 3. Histopathology showing thymoma gland

DISCUSSION

Thymoma and Myasthenia Gravis: Thymomas are slow-growing tumors but can recur, especially in cases of incomplete resection or higher histologic grade. They are categorized by the WHO system into types A, AB, B1–B3, and thymic carcinoma (C), with B2 associated with moderate aggressiveness [3]. MG frequently improves or remits after thymectomy, but in 20–30% of patients, symptoms persist or recur[4]. Late recurrence of thymoma is uncommon, and myasthenic crisis as a presenting symptom of tumor recurrence is exceedingly rare[11].

Very Late Recurrence: The majority of thymoma recurrences are observed within 5–10 years. Recurrence after 20 years is rare, with only a handful of reported cases exceeding 25 years [5, 6]. The mechanism may involve dormant tumor cells, immunologic reactivation, or slow tumor kinetics. Our patient had early-stage disease, complete resection, and long clinical stability—yet developed recurrence after 30 years, representing one of the longest documented intervals.

Myasthenic Crisis as First Indicator of Recurrence: Myasthenic crisis is often precipitated by infection, medication, or stress. In this case, no clear trigger was identified. The recurrence of thymoma may have stimulated autoimmune activity via re-expression of tumor antigens, triggering immune dysregulation and MG exacerbation [7]. This makes recurrence not only a local concern but also a systemic immunological event.

Surveillance Implications: Guidelines currently recommend surveillance imaging for up to 10 years post-thymectomy, depending on stage and histology [8]. Our case supports extending surveillance in patients with WHO B2/B3 thymomas and coexisting MG[12], potentially to lifelong intervals.

CONCLUSION

This case illustrates that thymoma recurrence can occur after an extremely long latency of 30 years and may present as a myasthenic crisis. Clinicians should maintain high suspicion in MG patients, regardless of prior thymectomy history or duration since surgery. Lifelong clinical and radiologic follow-up may be warranted for intermediate-risk patients to ensure early diagnosis and intervention.

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