

## A 31-year-old woman with type A medullary thymoma and myasthenia gravis

Rani Silondae<sup>1\*</sup>, Dimas Bayu<sup>2</sup>, Andi Fachruddin Benyamin<sup>2</sup>, Tutik Harjianti<sup>2</sup>, Rahmawati Minhajat<sup>2</sup>, Sahyuddin Saleh<sup>2</sup>

<sup>1</sup>Trainee Hematology and Medical Oncology Division, Department of Internal Medicine, Faculty of Medicine Universitas Hasanuddin, Makassar, Indonesia, <sup>2</sup>Hematology and Medical Oncology Division, Department of Internal Medicine, Faculty of Medicine Universitas Hasanuddin, Makassar, Indonesia

<https://doi.org/10.22146/inajbcs.v57i3.Supplement.24544>

### ABSTRACT

Submitted: 2025-09-01  
Accepted : 2025-09-04

Thymoma, also known as thymic epithelial tumor (TET), is a rare type of cancer originating from the epithelial cells of the thymic gland. Approximately one-third of thymoma patients develop myasthenia gravis (MG), predominantly associated with the cortical (type B) subtype. A 31-year-old woman presented to the hospital with initial complaints of dyspnea, chest pain, hoarseness, dysphagia, and weight loss. In July 2024, she developed diplopia and left palpebral ptosis, and by September 2024, she was diagnosed with myasthenia gravis. Vital signs, physical examination, and laboratory findings were within normal limits. Thoracic CT scan revealed an anterior mediastinal mass displacing mediastinal structures to the right, suspicious for thymoma, and biopsy and histopathological evaluation confirmed a type A thymoma. During hospitalization, the patient experienced respiratory failure necessitating ICU admission, endotracheal intubation, and tracheostomy. Currently, clinical improvement is noted following treatment with pyridostigmine bromide 60 mg and chemotherapy. Thymoma is the most common epithelial neoplasm of the thymus found in the anterior mediastinum. It ranges from benign and may resemble thymic carcinoma or lymphoma in presentation. Definitive diagnosis requires histopathological confirmation. Myasthenia gravis is an autoimmune disorder frequently associated with thymoma, characterized by autoantibodies targeting acetylcholine receptors (AChR) at the neuromuscular junction, causing fluctuating muscle weakness. Epidemiological data indicate that around 15% of thymoma patients develop MG, whereas approximately 50% of MG patients harbor a thymoma. Prognosis and recovery depend on thymoma stage, therapeutic response, and MG severity. Relationship between thymoma and MG in this case involves autoimmune mechanisms where thymoma induces immune dysregulation, promoting autoreactive T-cells and autoantibodies against AChR, disrupting neuromuscular transmission. Management of thymoma complicated by MG requires multimodal therapy, including thymectomy, immunosuppression, plasmapheresis, chemotherapy, and symptomatic treatment. This case of a 31-year-old female with medullary type A thymoma and MG was managed with a multimodal therapeutic approach including chemotherapy.

### ABSTRAK

Thymoma disebut juga dengan tumor epitel timus (TETs), adalah jenis kanker langka yang dapat terbentuk di sel-sel kelenjar timus. Sekitar sepertiga penderita Thymoma mengalami *myasthenia gravis* kebanyakan dari sub tipe kortikal (*type B*). Seorang wanita 31 tahun masuk Rumah Sakit dengan keluhan awal sesak napas, nyeri dada, suara serak, sulit menelan dan penurunan berat badan. Pada bulan Juli 2024 mengalami diplopia dan ptosis palpebra sinistra dan September 2024 terdiagnosa *myasthenia gravis*. Tanda vital, fisis dan laboratorium dalam batas normal. Pada pemeriksaan CT-Scan *thorax* didapatkan massa mediastinum anterior yang mendesak organ mediastinum ke kanan dicurigai suatu *thymoma*. Setelah dilakukan tindakan biopsi didapatkan hasil histopatologi suatu jenis *thymoma* tipe A. Saat perawatan pasien mengalami gagal napas sehingga pasien dirawat di ruang ICU RSWS, dilakukan intubasi dan trakeostomi. Saat ini pasien mengalami perbaikan klinis setelah pengobatan *pyridostigmine bromide* 60 mg dan kemoterapi. *Thymoma* merupakan neoplasma epitelial kelenjar timus

### Keywords:

Thymoma;  
lymphoma;  
acetylcholine receptors;  
myasthenia gravis;  
case report

yang paling sering ditemukan di mediastinum anterior, dapat bersifat jinak dan invasif, menyerupai gambaran karsinoma timik dan limfoma. Untuk menentukan diagnosis dikonfirmasi dengan pemeriksaan histopatologi. *Myasthenia gravis* adalah penyakit autoimun yang sering dikaitkan dengan thymoma, dimana antibodi menyerang reseptor asetilkolin di *neuromuscular junction*, menyebabkan kelemahan otot yang berfluktuasi. Data menunjukkan bahwa sekitar 15% pasien thymoma akan mengembangkan MG, sementara sekitar 50% pasien MG memiliki thymoma. Prognosis dan kesembuhan pasien bergantung pada beberapa faktor, termasuk stadium thymoma, respons terhadap pengobatan, dan tingkat keparahan MG. Hubungan *thymoma* dengan MG pada kasus ini didasari mekanisme autoimun dimana thymoma menginduksi disfungsi imun yang menyebabkan produksi sel T autoreaktif dan autoantibodi terhadap AChR sehingga mengganggu transmisi neuromuskular. Pada *thymoma* dan MG memerlukan terapi kombinasi, termasuk timektomi, imunosupresi, plasmaferesis, kemoterapi serta terapi simptomatik. Telah dilaporkan perempuan berusia 31 tahun masuk dengan diagnosa *medullary thymoma* tipe A dan *myasthenia gravis*, diberikan tatalaksana dengan pendekatan multimodalitas dengan terapi serta kemoterapi.