MYASTHENIA GRAVIS IS CAUSED BY THE THYMOMA IN ANTEROSUPERIOR MEDIASTINUM SINISTRA AND POSTEROINFERIOR SINISTRA : A CASE REPORT

Ferdy Syah Irfan, Susanthy Djajalaksana

Pulmonology and Respiratory Department, Saiful Anwar Hospital, Brawijaya University, Jaksa Agung Suprapto 2, Malang, 65112, Indonesia

Abstract

Background: Thymoma is the most common thymus tumor; it covers 30% of the anterior mediastinum mass in adult. Almost half of thymoma does not present with any symptom and is found by accident. In 40% of patients have symptom of myasthenia gravis; other symptoms include chest pain, symptoms of bleeding and compression to other mediastinum's structures. Ninety percent of thymoma is located in anterior mediastinum.
Case: A 42-year-old woman came to Saiful Anwar Hospital with a complaint of difficulty in swallowing since three months before admission. We performed physical examination and chest X-ray AP' and the result was within normal limit. In USG examination, there was no abnormality. From the laboratory examination, we found leucocytosis and from the CT-scan imaging, we found pocketed pleural effusion sinistra at the postero-inferior part.
Based on these findings, we diagnosed (pre-operation diagnosis) this patient as anterosuperior mediastinum tumor: suspect thymoma. The pulmonologist consulted to Surgical Department for surgery. The surgeon performed sternotomy-tumor excision. The result from the *vries coup* and histopathogical examination was thymoma. FOB after the surgery showed an edema at the right vocal cord (post-extubation). Post-operative chest X-ray showed no mass in antero-superior mediastinum.

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Keywords: *anterior mediastinum tumor, thymoma.*

1. Introduction

Myasthenia Gravis is the most common syndrome associated with autoimmune, occurring in 30% -50% of young women of decade 2 and older men of decade 7 or 8. Female-male ratio = 2: 1. It is a neuromuscular transmission disorder due to antibodies that interfere with the postsynaptic nicotinic acetylcholine receptor function at the myoneural junction and reduce neuromuscular efficiency. Most often arises as a progressive hidden disease, which is characterized by muscle weakness and fatigue. The situation is limited to certain muscle groups. The course of the disease varies greatly between patients so it is difficult to determine the prognosis. In 80% of patients the initial symptoms involve ocular muscles which causes Ptosis and Diplopia which eventually develops into a general weakness.

Spontaneous remission can occur in 10% -20% of patients, can be caused by elective thymectomy in patients. In myasthenia gravis thymus gland abnormalities occur. Although it is too small to be seen radiologically, the thymus gland in most patients is

*Corresponding author:
Ferdy Syah Irfan (edhots.md@gmail.com)
Pulmonology and Respiratory Department, Saiful Anwar Hospital – Brawijaya University, Jaksa Agung Suprapto St. No. 2, Malang. 65112, Indonesia

histologically abnormal. About 30% of myasthenia gravis sufferers without thymoma who undergo thymectomy end up with treatment-free remission. The other 50% experienced a real improvement.

Thymomas are a large part of thymic tumors, constituting 30% of the mass of the anterior mediastinum in adults and 15% of the mass of the anterior mediastinum in children. From the Survey, Epidemiology, and Final Results data show that thymoma occurs in 15 out of every 100,000 people per year, more common in men and Pacific islands, and the frequency increases in the eighth decade. Nearly half of the thymoma is asymptomatic and is discovered by chance. In 40% of patients have symptoms of myasthenia gravis, other symptoms can include chest pain, bleeding symptoms and suppression of mediastinal structures. Thymoma 90% occurs in the anterior mediastinum, the rest can be in the neck or other areas in the mediastinum. The normal form of the thymus is concave or flat, in the thymus gland there are more convex abnormalities. Large thymomas are lobulated, dense / hard, yellowish-brown to pinkish, may have cysts, calcifications or bleeding. Encapsulated attaches to surrounding or invasive organs. Thymoma originates from thymic epithelial cells, which are dominated by thymocytes and lymphocytes. Thymoma has benign cytological characteristics and must be distinguished from thymic carcinoma which has characteristics of malignant cytology.

2. Case

A 42-year-old female was admitted to hospital at 18th February 2010 complaining of difficulties in swallowing for 3 months and getting worse in the past 7 days before admission. The patient felt very weak in the past 3 days before admission. The patient also complaining about shortness of breath in the last 28 years. The shortness of breath usually occurs in cold weather and in dusty air. She used to use Ventolin Spray every time she felt shortness of breath. She also has cough in the last 7 days before admission, decrease of body weight, nausea, and epigastric pain. From the physical examination, there's no abnormality in head, neck, and thorax.

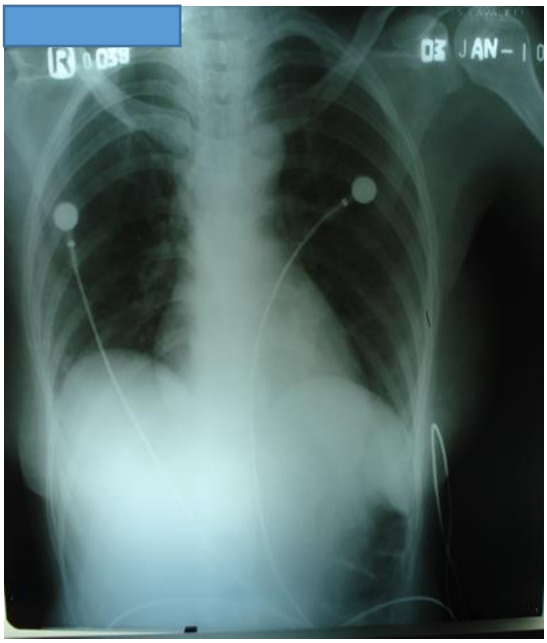


Figure 1. The chest x-ray examination in normal

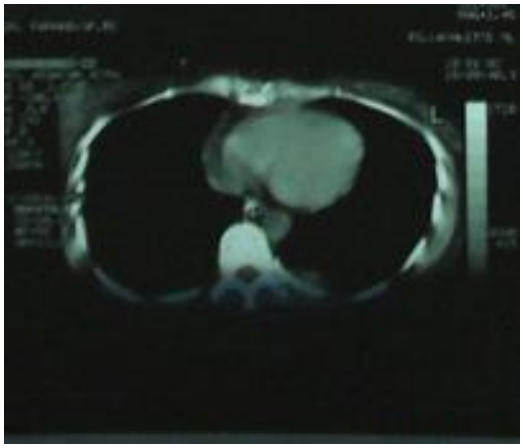


Figure 2. pocketed pleural effusion in left posteroinferior thorax shown in the CT Scan Thorax without contrast

Chest x-ray examination was normal. (Figure 1.) The laboratory blood examination showed an increased in leucocyte levels (13,200 /mm3). The ECG result was normal. The Spirometry examination showed severe obstruction. The Spirometry result shown in Table 1. Abdominal USG result was normal. The result of CT Scan Thorax without contrast was left postero-inferior pocketed pleural effusion (Figure 2).

Table 2. Spirometry Results (5 January 2010)

Test	Actual	Prediction	%
FVC	0.91	4.13	22%
FEV1	0.86	3.43	25%

Based on data above, the patient was diagnosed with Myasthenia Gravis without Thymoma, Asthma Bronchial in stable condition, and dysphagia suspected caused by Myasthenia Gravis.

The patient underwent thoracic surgery at 6th January 2010 with sternotomy and tumor excision. During surgery, there were found thymus tissue as high as ICS IX, left lung tumor and mediastinum posterior tumor. The thymus and the tumors were excised. All tissues taken were examined macroscopic and microscopically.

Figure 3. Macroscopic tumour

The result of macroscopic examination showed fatty tissue with multiple solid mass with size 5x4x1,5 cm, mediastinum lymph node with size 1,5x1x1 cm, and left tumor mediastinum posterior lung with size 5x3x2 cm, the size of the tumors shown in figure 3. The result of microscopic examination was Thymoma, and there was no malignancy. The results of microscopic examination shown in figure 5.

The patient condition was evaluated at 2nd day after the surgery and 6 weeks after the surgery. The result of chest X-Ray on 8th January 2010 shows massive left pleural effusion. On 2nd February, the patient underwent bronchoscopy examination, and the result was edema of the right plica vocalis, washing and brushing microscopic examination shows inflammatory cells. (Figure 4). At 6 weeks after the surgery, the condition was getting better, the result of chest X-Ray on 25th February 2010 shows left pleuropneumonia.

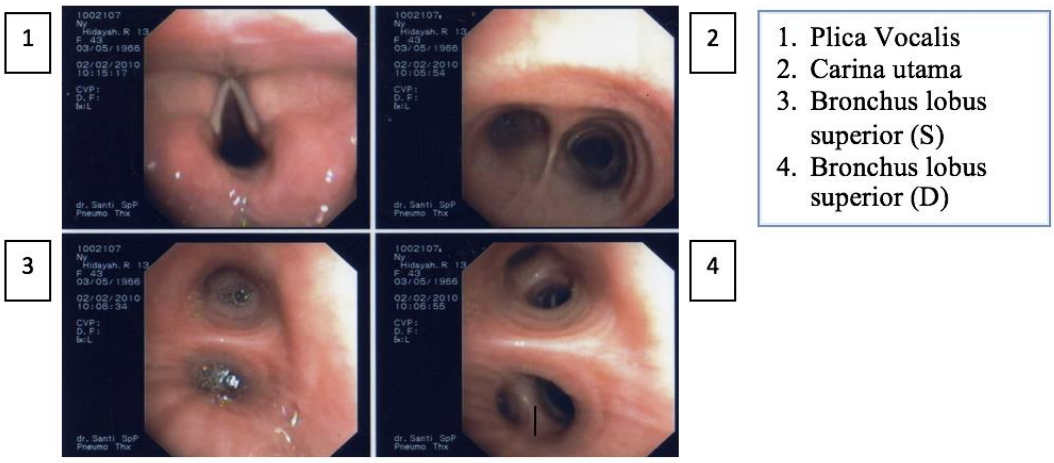
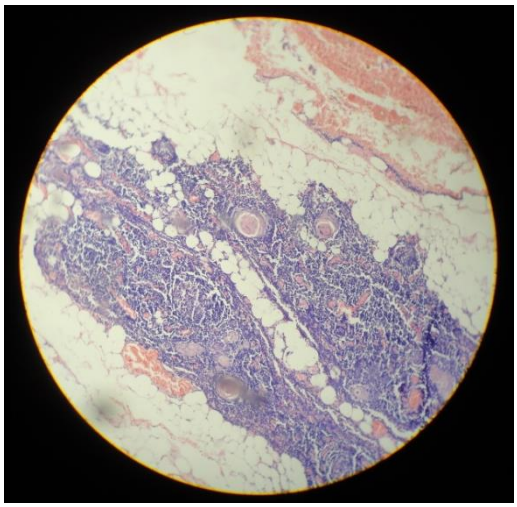
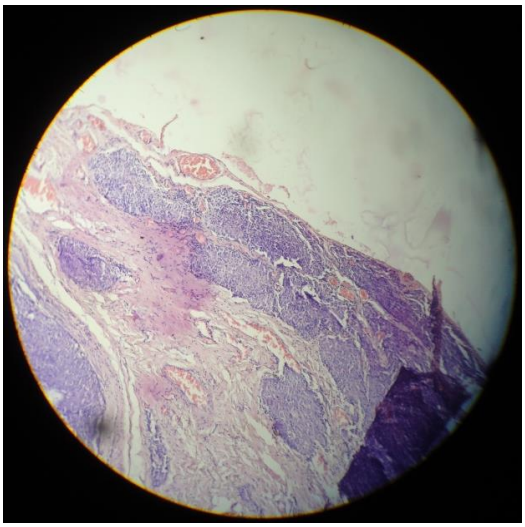


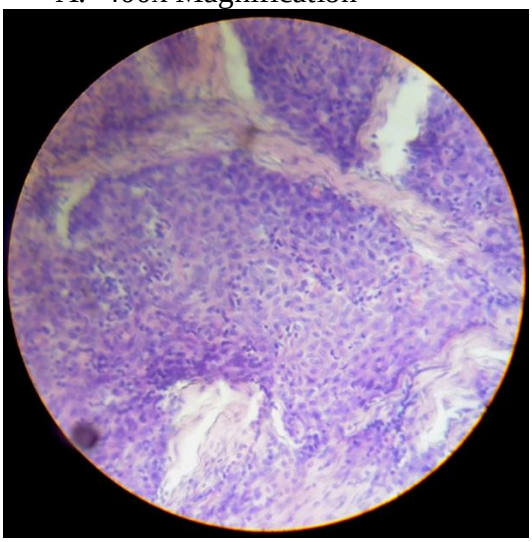
Figure 4. Flexible Optical Bronchoscopy at one month after surgery (2 February 2010) shown edema of the right Plica Vocalis (Post Extubation)



A. 400x Magnification



B. 100x Magnification



C. 400x Magnification

Figure 5. Microscopic examination results postoperatively was thymoma (6th May 2013)

3. Discussion

In this case the patient was a 42-year-old woman with a preoperative diagnosis was myasthenia gravis without thymoma.

The basis of the diagnosis is:

From the history obtained 42 years old female patients with complaints of difficulty swallowing (difficult to eat and drink) since ± 3 months before admission, getting worse ± 7 days before admission. The body feels weak since ± 3 days before admission. Accompanied by coughing for ± 7 days before admission, getting worse for ± 3 days before admission. In September, October, November 2009 the patient went to a neurologist in Jember because

it was difficult to swallow, given 6 kinds of drugs (Pyridostigmine Br 3x1, Methylprednisolone 8mg 3x1, Lansoprazole 3x1, Fradiomycin sulfate 2.5x mg, gramicidin-S HCl 1 mg 1-0-1, Mecobalamin 500mcg 1-0-1, Fitoserin / 1-0-1).

To confirm the diagnosis, it was decided to perform thoracic surgery after consulting to Thoracic Surgery Department. According to the literature, the histology of the thymus gland mostly is abnormal. The benefits of thymectomy is it can reduce symptoms.

On January 6, 2010, sternotomy and tumor excision were performed: excision of the thymus tissue, gland, and lung tissue in this patient, obtained a yellowish white mass. The vries coup result was nonmalignant. Microscopic examination results: THYMOMA, no malignancy was found in the tissue examined.

According to the literature the therapy for thymoma is multimodality (surgery, chemotherapy and radiotherapy) because even though benign it is still thought of the possibility of malignancy. In this patient chemotherapy and radiation were not carried out because the patient refused.

4. Summary

In this case report a patient aged 42 years who were diagnosed early with myasthenia gravis without thymoma. Then a surgical sternotomy and tumor excision is performed: excision of the thymus tissue + glandular and lung tissue, obtained a yellowish white mass. Microscopic examination results obtained: Thymoma, not malignant. Post-surgery was performed with the results of FOB edema right plica vocalist (post extubation). A chest radiograph was also performed and no mass picture was obtained in the anterosuperior mediastinum. Clinically also shows improvement.

The final diagnosis of this patient is: Anterosuperior Mediastinum Tumor (PA: Thymoma) post sternotomy and excision.

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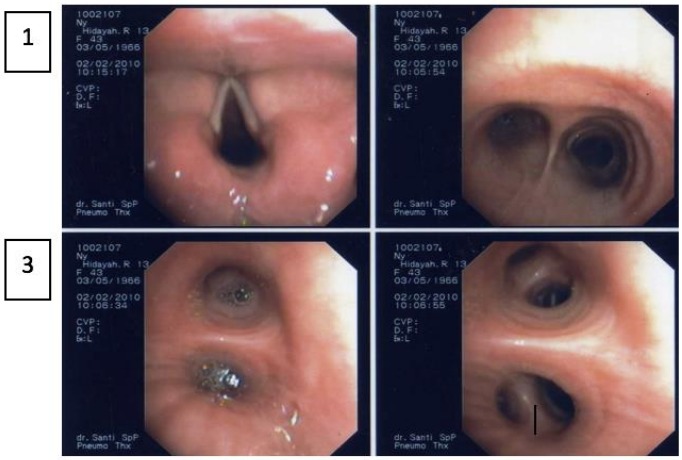
Figure 6. CXR AP 2 days after surgery (8 January 2010)

Conclusion: Massive left pleural Effusion



1. Plica Vocalis
2. Carina utama
3. Bronchus lobus superior (S)
4. Bronchus lobus superior (D)

Figure 7. FOB 1 month after surgery (2 February 2010)

Conclusion: Edema of the right Plica Vocalis (Post Extubation)

Result of Washing Brushng FOB: Inflammation cells PMN, MN, histiosit.

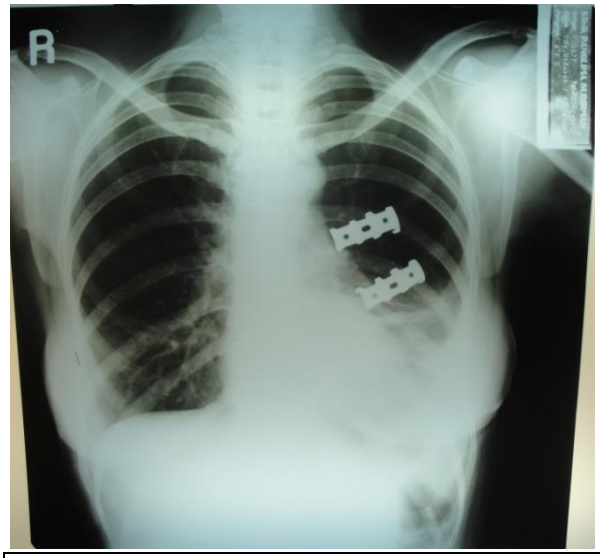


Figure 8. CXR PA (25 February 2010)

Conclusion: Left Pleuropneumonia