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Case report

Spontaneous hemorrhage of thymus and thymoma in adults

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Abstract

Spontaneous hemorrhage from the thymus is extremely rare. In adults, it may occur in patients without underlying coagulopathy and mimic aortic dissection. To the best of our knowledge, only three previous adult cases have been reported in the English literature. This report presents two additional adult patients who were admitted in our institution with different clinical presentations of spontaneous thymic hemorrhage. © 1999 Elsevier Science B.V. All rights reserved.

Keywords: Spontaneous hemorrhage; Thymus

1. Introduction

We present two patients admitted in our institution with different clinical presentations of spontaneous thymic hemorrhage. One of them presented an acute mediastinal widening on chest X-ray and the other a massive spontaneous hemothorax. Both patients were known to be normotensive, had no defect in coagulation, and did not experienced previous chest trauma.

2. Case reports

The first patient was a 39-year-old man, complaining of chest discomfort. No previous chest trauma was mentioned and physical examination disclosed no abnormality in the respiratory and cardiovascular system. Chest X-ray revealed a large, homogeneous mass located in the anterior mediastinum. No pleural or pericardial effusion was detected and full blood count disclosed no anemia. A chest X-ray performed one year previously was normal. A malignant tumor of the anterior mediastinum could not be ruled out by tomography and a left anterior thoracotomy was performed. A large hematoma of approximately 6.0 × 5.0 × 4.5 cm located in the thymic area, displacing the left

mediastinal pleura was found. The hemorrhagic thymus was dissected from the pleura and removed. Pathological examination revealed an organized hematoma surrounding residual atrophic but otherwise normal thymic parenchyma.

The second patient was a 67-year-old man presenting with dyspnea and right thoracic pain starting 4 days before his admission. On physical examination, pulse rate was above 100 beats per min and blood pressure was 120/70 mmHg. A chest X-ray disclosed an almost complete opacification of the right hemithorax. A chest tube was inserted and 1500 ml of old blood evacuated. The patient remained hemodynamically stable. A contrast-enhanced computerized tomography of the chest showed a normal aorta and great vessels, but revealed a large mass with ring-like calcification of the anterior mediastinal cavity. A large, hemorrhagic thymic tumor adherent to the pericardium was removed through a right thoracotomy. No bleeding point was observed and hemorrhage most likely resulted from small perithymic vessels. Histological examination revealed a cystic thymoma with extensive hemorrhage (Fig. 1).

3. Discussion

Thymic lesions may cause mechanical compression or invasion of mediastinal structures, producing cough, dyspnea, dysphagia, or chest pain [1,2]. Autoimmune-

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Fig. 1. Cystic thymoma composed of solid and cystic areas with extensive hemorrhage.

related systemic effects may be observed and usually include myasthenia gravis, red cell aplasia, or systemic lupus erythematosus [2].

Acute respiratory symptoms due to non-traumatic hemorrhage of the thymus is extremely rare. The condition has been reported in six neonates with suspected coagulopathy [3], and in two children with aplastic anemia and thrombocytopenia [4]. To the best of our knowledge, the condition has been reported in only five adult patients in the English literature, including the two cases presented herein (Table 1).

Hemorrhage occurred from a thymoma in three patients and from an apparently normal or atrophic thymus in two. In contrast to neonates and children, none of the adult patients was known to have a defect in coagulation. Hemorrhage was brisk and massive in three patients, causing rupture of the mediastinal pleura and secondary hemothorax. In two patients, acute respiratory symptoms were associated with widening of the mediastinal shadow on chest X-ray,

suggesting a tumoral process. All patients underwent thymectomy through right or left thoracotomy and survived.

Rupture of a thoracic aortic aneurysm is the main differential diagnosis of acute non-traumatic hemomediastinum and should be excluded by thoracic aortography or contrast-enhanced computerized tomography of the chest. Spontaneous mediastinal hemorrhage from mediastinal tumor has been reported in a few patients with extragonadal germ cell tumor [7], parathyroid adenoma [8], or hemangiopericytoma [9]. Transient increase in intrathoracic pressure and/or altered hemostasis may also lead to mediastinal bleeding on rare occasions [7].

In conclusion, spontaneous hemorrhage of the thymus should be considered in the differential diagnosis of acute mediastinal widening and/or massive hemothorax of adult patients without underlying coagulopathy or previous chest trauma.

Table 1
Adult patients presenting with spontaneous hemorrhage of the thymus

Authors [ref]	Patient	Age (year)	Sex	Clinical presentation	Location of hemorrhage	Thymic histology	Associated pathology	Outcome
Ghoshhajra [5]	1	43	M	Chest pain	Mediastinum	Normal	No	Alive
Caplin et al. [6]	2	51	M	Dyspnea, chest pain	Pleural space	Benign thymoma	No	Alive
Templeton et al. [7]	3	63	M	Dyspnea, chest pain, hypotension	Pleural space	Malignant thymoma	No	Alive
Current series	4	39	M	Chest pain	Mediastinum	Atrophic thymus	No	Alive
	5	67	M	Dyspnea, chest pain	Pleural space	Malignant cystic thymoma	No	Alive

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