

Esophageal rupture complicated by acute pericarditis

Akut perikardit ile komplike olan özafagus yırtığı

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Summary– Esophageal perforation is a serious condition with a high mortality rate. Delayed detection of esophageal perforation may result in devastating complications such as mediastinitis and pericarditis. Esophageal perforation is rarely due to aspiration of foreign bodies. Here we report the case of a 59-year-old male patient with complicated esophageal perforation due to ingestion of a chicken bone, whose first signs are considered to be acute non-specific pericarditis.

The majority of patients with acute chest pain are non-life-threatening etiologies. Nevertheless, catastrophic cause of chest pain such as acute coronary syndrome, aortic dissection, pulmonary embolism, esophageal perforation, and pericarditis must be considered in the differential diagnosis. Esophageal perforation is a serious injury of the digestive tract. Once a perforation occurs, saliva, retained gastric contents, bile, and acid enter into the mediastinum and cause mediastinitis. Perforations at the mid or distal esophagus lead to collections in the respective pleural cavities, resulting in serious complications such as mediastinitis, abscess, empyema, pericarditis or cardiac tamponade.^[1] Esophageal perforation rarely occurs secondary to foreign body ingestion.^[2] The foreign bodies most commonly ingested by adults are fish bones and chicken bones. A clinical approach to the problem depends on the type of material ingested and on the patient's symptoms and physical findings.^[3] Pericarditis due to esophageal rupture secondary to foreign

Özet– Özofagus perforasyonu yüksek mortalite hızı olan ciddi bir durumdur. Özofagus perforasyonunun gecikmiş tanısı mediastinit ve perikardit gibi yıkıcı komplikasyonlarla sonuçlanabilmektedir. Özofagus perforasyonları nadiren yabancı cisim aspirasyonuna bağlı olmaktadır. Bu yazıda tavuk kemiği yutulmasına bağlı ve ilk bulguları akut nonspesifik perikarditi düşündüren komplike olmuş özofagus perforasyonlu 59 yaşında bir erkek olgu sunuldu.

bodies is extremely rare and is little reported in the literature.^[4,5]

In this case report, we present a pericarditis case due to esophageal rupture caused by ingestion of a foreign body.

CASE REPORT

The case we present is a 59-year-old patient who applied to the emergency service with chest pain. The pain was of a stinging character and spreading to the back. Arterial blood pressure, heart rate and temperature were 100/60 mmHg, 100 beat/min, 38.8°C respectively on physical examination. Physical examination was normal except for pericardial friction rub. Electrocardiography (ECG) showed ST segment elevations in all derivations except V1 and aVR (Fig. 1). Cardiothoracic ratio was normal on chest film. Laboratory examinations were within normal limits except troponin 0.64 ng/mL, white cell count 12,600/mm³, C-reactive protein 790 mg/L. Transthoracic echocardiography demonstrated pericardial effusion. The patient was

Abbreviations:

CT Computed tomography
ECG Electrocardiography

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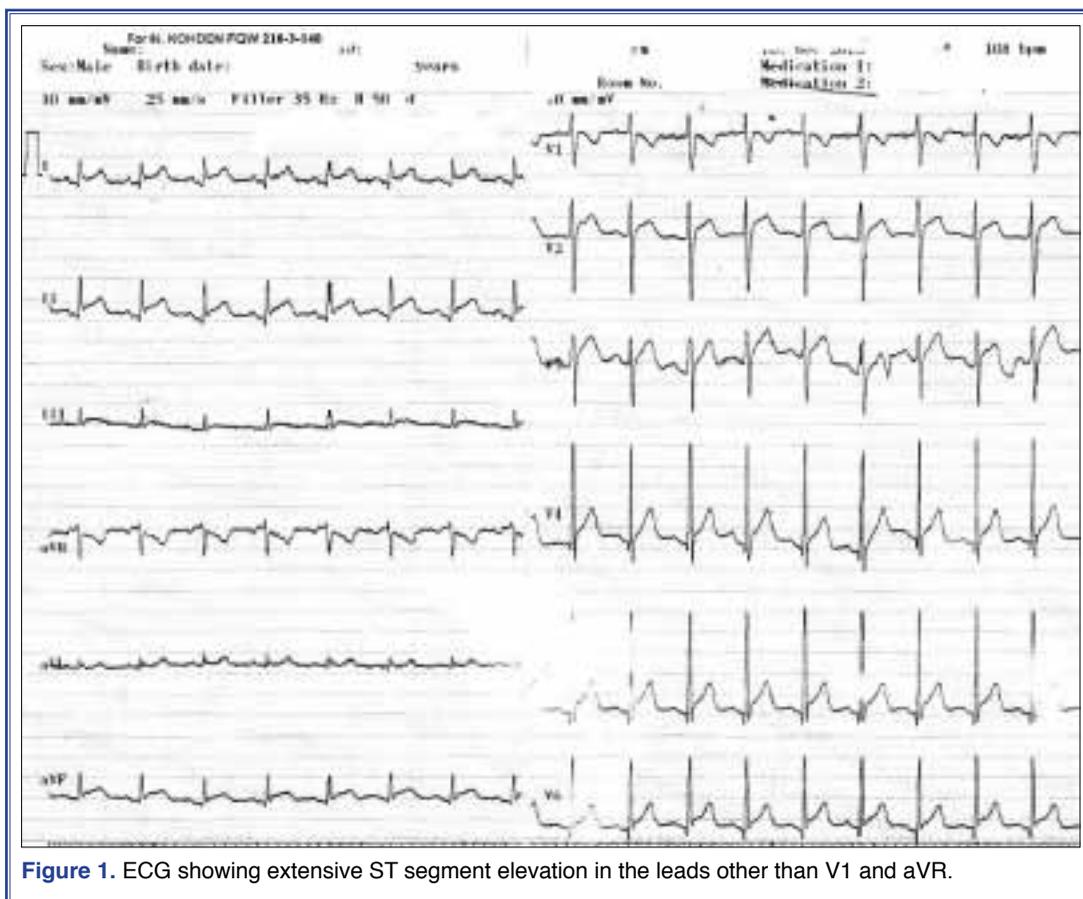


Figure 1. ECG showing extensive ST segment elevation in the leads other than V1 and aVR.

hospitalized in the coronary care unit with a pre-diagnosis of pericarditis. As a treatment, ibuprofen 850 mg p.o. and proton pump inhibitor was initiated. There was no clinical change in the patient despite 12 h treatment



Figure 2. The chest computed tomography scan showing mid-esophageal perforation (arrow), esophageal-wall thickening, periesophageal mediastinal air, intraesophageal foreign body and a left pleural effusion.

and hence we decided to investigate any rare cause of pericarditis. After careful questioning, we learned that the patient had ingested a chicken bone while he was eating chicken two days previously. Thoracic computed tomography (CT) imaging was taken on the suspicion of esophageal rupture. Mid-esophageal perforation, esophageal-wall thickening, periesophageal mediastinal air, intraesophageal foreign body and a left pleural effusion were found on the thoracic CT (Fig. 2). Patient's oral feeding was stopped, and parenteral antibiotic treatment was started. The thoracic surgeon decided on surgery. A thoracotomy was applied, and surgically an esophageal drainage, esophageal resection, and end-to-end anastomosis was performed. After surgery, parenteral antibiotic treatment was continued. A control esophagusgraphy was taken, which revealed no esophagus rupture. ECG signs were resolved, the patient was stable during follow-up after the surgery, and then the patient was discharged from hospital. At a 1-month follow-up visit, the patient was clinically and echocardiographically normal (Figure 3).

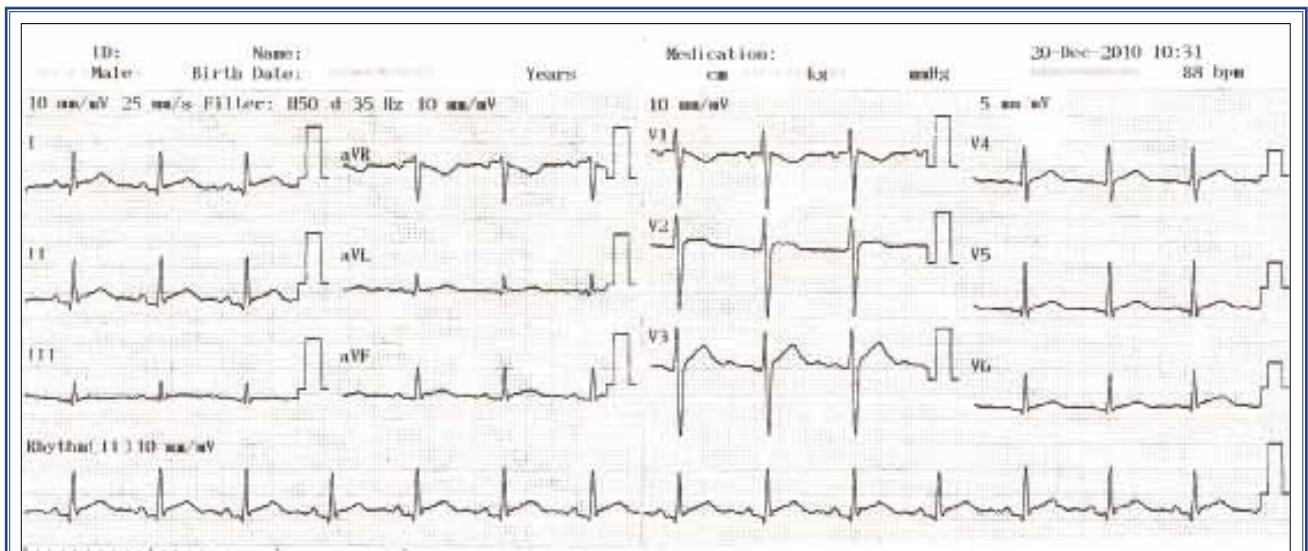


Figure 3. Resolution of ST segments to the isoelectrical line.

DISCUSSION

Adult patients presenting to the emergency department with a chief complaint of chest pain may have numerous conditions. Emergent conditions such as aortic dissection, pulmonary embolism, pneumothorax, pericarditis, esophageal rupture and acute coronary syndrome require rapid diagnosis and treatment. Esophageal perforation remains a life-threatening condition. Esophageal perforation due to foreign body ingestion is rare, accounting for 1-4% of total reported esophageal perforation cases.^[6] Patients with esophageal perforation generally appear ill and may complain of dyspnea, cough, fever and abdominal pain. Patients presenting more than 12 h after the onset of symptoms may show signs of sepsis.^[7] Up to 50% of patients are atypical, however, and consequent diagnostic errors lead to a delay in treatment.^[8] The mechanism of perforation is thought to be initial impaction and then a combination of local inflammation and direct pressure necrosis.^[9] This explains the common finding of a presentation delayed over a few days in foreign body perforation, as was the case here. Esophageal perforation, therefore, tends to occur in the 24 h period following foreign body impaction in the majority of cases.^[10] Pericarditis with effusion is a life-threatening complication with a reported incidence of about 13% after esophageal perforation.^[11] Chest pain is the most common complaint of acute pericarditis. Pain starts suddenly, and is ploreitic and sharp in na-

ture. Usually it is localized in the left pericardial and retro sternal region, and spreads out to the musculus trapezius region and neck. Sometimes it spreads out to the epigastric region, and it is thought acute abdomen.^[12] As in our case, the stinging character of the pain and extensive ST elevations in ECG may be primarily considered as acute pericarditis. Due to the broad etiology spectrum of pericarditis, non-steroidal anti-inflammatory drugs were initiated as a treatment and as the chest pain of the patient did not resolve, the patient was evaluated again and thoracic CT images were taken. A thoracic CT is more sensitive in detecting mediastinal air and fluid, and may also be useful in cases in which contrast esophagograms cannot be obtained, or in cases that are difficult to diagnose or localize. In our case, the CT image showed minimal pleural effusion on the right side, a foreign body in the esophagus neighboring the descendant aorta, and perforation due to the foreign body. Foreign bodies most commonly perforate the cervical esophagus. The second most common site for perforation is at the level of the aortic arch.^[10] Treatment depends on the etiology, site, and size of perforation, the time elapsed between perforation and diagnosis, underlying esophageal disease, and the overall health status of the patient.^[13] Perforations of the lower two-thirds of the esophagus that affect the pleura, pericardium, or peritoneum require rapid surgical intervention.^[13] In our case, the foreign body was at the distal of the aortic arcus. As there was pericardial involvement, surgical interven-

tion was administered. After the surgery, the patient was discharged with cure.

Esophageal perforation is a serious disorder that is difficult to diagnose and manage. Optimal therapy includes primary repair of the perforation site and elimination of distal obstruction. It is worth keeping in mind that even if all the symptoms indicate pericarditis, it may be a complication of an underlying disease.

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Key words: Esophageal perforation; pericarditis.

Anahtar sözcükler: Özofagus perforasyonu; perikardit.