



Short communication

Life-threatening hematoma after recurrent femoral artery puncture on a patient with massive pulmonary embolism

Life-threatening femoral hematoma



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ABSTRACT

Acute pulmonary embolism (PE) is a life threatening condition which represents with a severe manifestation of a venous thromboembolic disease. The incidence of PE ranges from 2% to 7%. When a patient is suspected with acute PE, she/he must be hemodynamically stabilized including a respiratory support, hemodynamic support, and empiric anticoagulation therapy. Although empirical anticoagulant therapy may protect the patient, sometimes it is not innocent. In these patients, care must be taken in terms of complications after blood gas analysis, which is a clue to PE diagnosis and differential diagnosis. Here, we present management of a patient with a huge femoral hematoma who diagnosed with PE.

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Introduction

Acute pulmonary embolism (PE) is life threatening and represents a severe manifestation of the venous thromboembolic disease. Acute PE is the third most common cause of death among hospitalized patients and presented with dyspnea, tachypnea, tachycardia, diaphoresis, cyanosis and loss of consciousness.¹ Transthoracic echocardiography (TTE), computed tomography (CT), pulmonary angiography and magnetic resonance imaging (MRI) can be used for diagnosing. Respiratory-hemodynamic support should be provided and anticoagulation should be administered.² Femoral artery (FA) puncture is often preferred for arterial blood gas analysis despite is regarded as a relatively safe procedure, complication rate ranges from 0% to 21% and serious complications can be seen.³

Case report

A 63-year-old male admitted to the emergency service was presented with severe dyspnea, tachypnea, tachycardia. Arterial blood gases analyses were performed and chest Computed Tomography scan was taken due to the suspicion of acute PE. His blood pressure, heart rate, body temperature, and oxygen saturation was 95/65 mm Hg, 110 bpm, 36,7 °C and 89%, respectively on admission. pH: 7.45, PO₂: 50 mm Hg, PCO₂: 43 mm Hg, SO₂: 90%, HCO₃:26 mmol/L was detected

on arterial blood gas analysis. Laboratory tests revealed leukocytosis of 11,7 μL, hemoglobin of 13,5 g/dL, hematocrit of 40,9%, AST of 13 U/L, ALT of 16 U/L, creatinine of 0,7 mg/dL. Massive pulmonary emboli was detected in the right main bronchial artery by CTA. Low molecular weight heparin (LMWH) (enoxaparin sodium 6000 anti-Xa/0.6 mL) therapy was started to administer to the patient subcutaneously twice a day immediately after patients get worsened, was intubated, supported with a mechanical ventilator (volume control mode with a 14/min ventilation rate) and sedated. Numerous femoral artery puncture for arterial blood gas analysis was performed following day, hematocrit level was progressively decreased (21,3%) after intubation and bruises from groin to thigh, scrotum, and back was detected, eventually, anticoagulation therapy was terminated (Fig. 1). Despite 7 units of packed red blood was administered to the patient, hematocrit level (25,7%) did not increase significantly in two days. Bedside Ultrasound (US) examination detected 13 × 10 cm hematoma on the proximal portion of the left thigh and diagnosis was confirmed by CT scan. There upon, surgical intervention was decided after informed consent was taken from patient's relatives. Under general anesthesia, standard groin incision was performed and bleeding was determined on the left deep femoral artery (DFA) that was previously punctured, a large amount of hematoma was removed (Fig. 2) and the operation was ended after restoring. Unfortunately patient died on account of sepsis on post operative 5th day.

Discussion

Acute PE leads to pulmonary vascular resistance and deterioration of right ventricular contractile function. Cardiogenic shock is augmented

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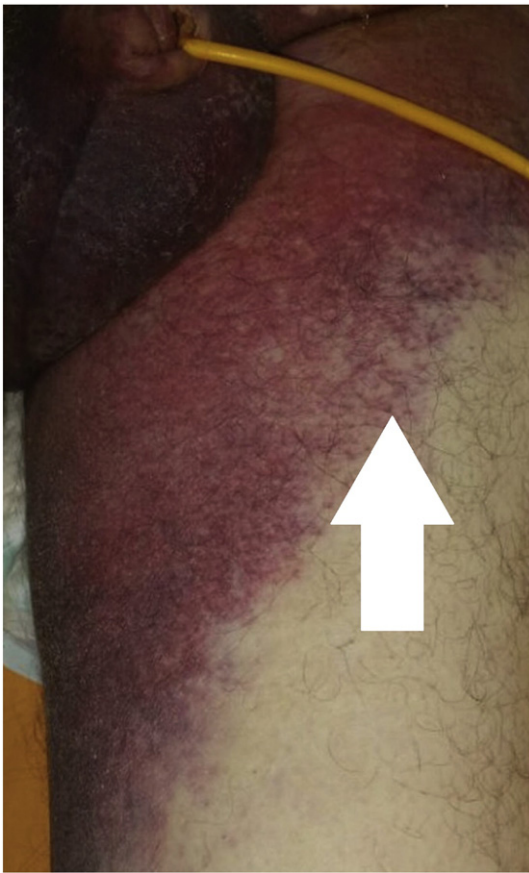


Fig. 1. Bruises from groin to thigh, scrotum, and back.

emergency clinic of our hospital. Moreover, anticoagulation therapy sometimes leads to vascular or neuromuscular complications. Attention must be paid to the possibility of injury of the deep, superficial and common femoral artery to prevent life threatening hematomas and compression to the groin must be implied at least 5 min.⁵ Radial artery puncture for arterial blood gas analysis is recommended due to lower complication risks. Additionally, there are some options for the treatment of retroperitoneal hematoma including medical therapy, percutaneous drainage, percutaneous drainage + endovascular intervention for vascular leakage, and open surgery.

In conclusion, anticoagulation therapy in suspicious acute PE is vital, but care must be taken in terms of complications. Especially, a hematoma that developed after femoral puncture can be fatal.

Declaration of conflicting interests

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by concomitant hypoxia which inevitably leads to cardiovascular collapse. The interval from the onset of symptoms to death is relatively short. 50% of them die within 30 min, 70% of them die within 1 h and more than 85% of them die within 6 h after the onset of symptoms.⁴ The diagnosis of PE comprises patient's history and physical examination along with selective tests, such as electrocardiography (ECG) to rule out myocardial infarction, chest radiography to rule out pneumothorax and an arterial blood gas analysis to ensure the diagnosis. Arterial puncture can be implied at any cannulation site. Children and patients with congenital heart disease have a higher risk of arterial puncture site complication. FA punctures are commonly implied in the

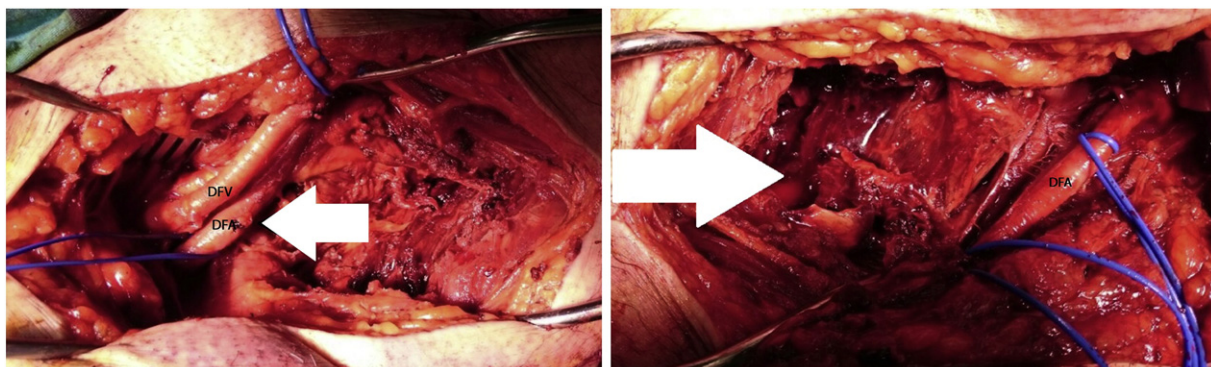


Fig. 2. Repairing of the left deep femoral artery.