

Delayed Presentation of Pulmonary Embolism post Intramedullary Nailing for Femur Fracture: A Case Report

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INTRODUCTION:

A fracture of the femur is a recognized risk factor for pulmonary embolism. This is observed in 2-4% of cases and up to 89.3% are detected within the first 48 hours of presentation¹. We report a case of a patient with delayed presentation of pulmonary embolism 18 days after intramedullary nailing of femur.

MATERIALS & METHODS:

A 26 year old gentleman with no known medical illness sustained an isolated fracture of midshaft of right femur (Winquist Classification Type 2). He was put on skeletal traction and hyperhydration regime was commenced. He did not exhibit any signs or symptoms of fat embolism or chest complications during admission.

He underwent reamed intramedullary nailing of the right femur on Day 7 post trauma. Intraoperatively blood loss was about 300mls. The surgical procedure was uneventful and patients' vital signs remained stable throughout surgery. He was discharged on Day 2 post surgery using crutches for ambulation.

RESULTS:

At clinic follow up at Day 14 post surgery, he was well with no complaints and the surgical wound well healed. However, on Day 18 post surgery, the patient attended the Emergency Department of our center with complaints of severe epigastric pain, sharp chest pain on inspiration and vomiting. Vital signs showed patient was pyrexial (T 38 degrees Celsius), with tachycardia (pulse rate 110) and hypertensive (blood pressure 150/89). Chest x-ray showed bilateral pulmonary increased markings. ECG done showed classical changes of sinus tachycardia, Q wave in Lead III and T inversion in Lead III. CT Pulmonary Angiography (CTPA) revealed bilateral main pulmonary artery embolism with multiple smaller emboli in multiple lung segments. Ultrasound Doppler of bilateral lower limbs was not suggestive of deep venous thrombosis.

The patient was started on anticoagulant therapy and discharged home after 5 days. A repeat CTPA after 6 months showed residual pulmonary emboli in the left lower lobe pulmonary artery. The patient was required to be on oral anticoagulation therapy for 12 months. The femur fracture had united and patient is ambulating normally without aids.

DISCUSSIONS:

Pulmonary complications are common in the immediate period following femur fractures. It is noted to have an increased incidence with delayed fixation (more than 24 hours)². Pulmonary embolism is more common in patients with multiple lower extremity and pelvic fracture, obese patients, history of warfarin use, and prolonged intensive care unit stay³. However, this patient did not have any of these risk factors and presented more than 2 weeks after fracture fixation.

CONCLUSION:

It is important to consider that all patients with femur fractures who have delayed surgery for fracture fixation be on prophylactic anticoagulation therapy and other measures such as VTE stockings to reduce the risk of DVT and PE peri- and post-operatively.

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