

A CASE OF CONCOMITANT FAT EMBOLISM SYNDROME AND PULMONARY EMBOLISM IN AN ORTHOPAEDIC TRAUMA PATIENT

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Introduction: Pulmonary embolism (PE) is caused by obstruction of the pulmonary artery or its branches. Bone fractures increase risk of fat emboli in vessels and induce a systemic inflammatory response, known as fat embolism syndrome (FES). The differential of acute hypoxia in trauma patient without thoracic injury within 72 hours post-trauma are PE and FES. However, cases of concomitant PE and FES are rare.

Discussion: A 26-year-old gentleman, with no past medical history was brought to hospital after a motorcycle collision. He was hemodynamically stable, GCS score was E4V5M6. He sustained closed fracture proximal third right femur with distal third right tibia and fibula fracture (Fig. 1). Otherwise, he had no other injury. He was treated with skeletal traction while waiting for surgery. Fig. 1. Radiographs revealed closed fracture proximal third right femur with distal third right tibia and fibula fracture. 35 hours post-trauma, patient's oxygen saturation dropped to 68%. He was tachycardia and febrile. His hemoglobin level and platelet count dropped. Chest x-ray revealed diffused opacification (Fig. 2). Fig. 2. Chest X-ray on admission (left) and after patient developed hypoxia (right). Patient was treated as FES, intramedullary nailing of right femur and plating of right tibia was done. 24 hours postoperatively, patient still required oxygen 10L/minute via non-rebreather mask. CT Pulmonary Angiogram was performed and suggestive of FES with PE. The patient was started on anticoagulation therapy for 6 months. Six months post-trauma, he remains clinically well with no neurological sequelae and able to ambulate with crutches.

Conclusion: Both FES and PE are potentially fatal. Hence, other than hydration, early fixation must be performed to prevent the occurrence of this condition in trauma patient. Concomitant FES and PE, although very rare, should be considered when a trauma patient's respiratory status worsen, to ensure appropriate management of patients and prevent morbidity and mortality.