

CASE OF FAT EMBOLISM SYNDROME DUE TO SHORT BONE FRACTURE: A RARE

Respiratory Medicine

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KEYWORDS

BACKGROUND

Fat embolism syndrome is a recognized and potentially fatal complication of long bone fractures and orthopedic lower limb surgery. FES usually occurs within 48 hours after trauma or during surgical procedures in most patients¹. We are presenting a rare case of fat embolism secondary to short bone fracture.

Case Report :

A 20 years old male with no known Co-morbid condition with alleged history of assault leading to left metatarsal fracture, stabilised with POP cast, managed conservatively at local hospital. Patient presented with complaints of breathlessness, fever and dry cough in emergency after four days. Fever was high grade with chills and rigor, breathlessness progressed to mMRC grade 4 from mMRC grade 2 in 4 days. Episodes of hemoptysis was also present.

On examination patient was having hypoxia (Spo₂: 80% @ RA), tachypnea (RR: 42/min), tachycardia (PR : 138 bpm) and bilateral crepitations on auscultation with ABG suggestive of mixed acidosis (pH- 7.159, pCO₂- 70, pO₂- 80, Bicarbonate 19).

In view of respiratory distress, patient was electively intubated and put on invasive mechanical ventilation. Complete blood examination suggestive of anemia and thrombocytopenia, urine routine examination showing few red blood cells and fat globules.

CXR s/o bilateral diffuse infiltrates. HRCT chest s/o multifocal geographic ill defined Ground Glass Opacities and suggest possibility of fat embolism. It is also fulfilling Gurd Criteria. Patient was put on mechanical ventilation for 3 days. Supportive treatment with oxygen therapy, reassurance, close observation and nursing care and made a good recovery both from a respiratory and orthopaedic perspective.

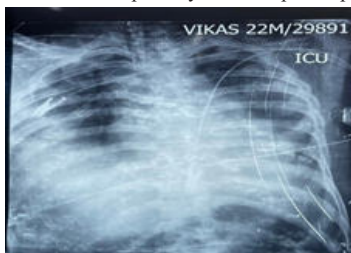


Fig 1: CXR s/o bilateral diffuse infiltrates.



Fig 2: HRCT chest s/o multifocal geographical-defined GGO and interlobular septal thickening in bilateral lung parenchyma with no zonal predilection lobular area of sparing— suggest possibility of fat embolism.

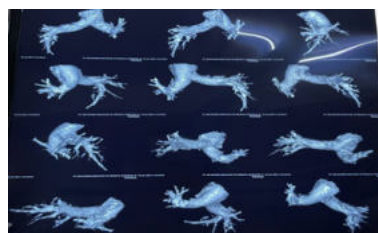


Fig 3: Mildly dilated main pulmonary artery, right and left pulmonary arteries, representing PAH

DISCUSSION:

- Fat embolism syndrome is a rare but potentially life-threatening complication of long bone fractures and orthopaedic reaming procedures. It results from fat emboli entering the blood-stream following tissue damage. A high level of suspicion should be taken when patients present with hypoxia, confusion or rash following long bone fractures and/or postoperatively².
- Differential diagnosis include pulmonary embolism, acute respiratory distress syndrome, pulmonary oedema and atypical infections³.
- The mainstay of treatment is supportive; ensuring good arterial oxygenation and maintaining good intravascular volume, as shock can exacerbate lung injury.
- This case shows that it can very rarely present with short bone fractures as well. This case report exemplifies the classic features of fat embolism syndrome following short bone fracture. It is uncertain if the source of the fat emboli originated from the fracture itself or its subsequent management.

CONCLUSION

- This case demonstrates as to keep high degree of suspicion in case of short bone fracture as well. It also demonstrates clearly how to recognise, investigate and manage fat embolism syndrome with a positive outcome.

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