Fat Embolism Syndrome - A Case Report

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Abstract: Clinical syndrome of neurologic, respiratory, dermatological abnormalities that occur within 48-72 hours after trauma. It is a physiological response of fat within the systemic circulation. Fat embolism syndrome is a clinical diagnosis, mostly associated with long bone and pelvic fractures.

Keywords: long bone fracture, fat embolism syndrome (FES)

1. Introduction

Fat embolism syndrome (FES) is a rare clinical syndrome that can complicate a wide variety of clinical conditions, particularly those where fat is manipulated. Almost all cases of FES are due to long bone and pelvic fractures (bone marrow contains a high content of fat). However, some cases are associated with trauma in the absence of orthopedic fractures and rare cases are nontrauma-related.

2. Case Report

A 23 year old male alleged to have sustained injury due to collision of bike with an auto, he complains of pain, swelling, and deformity in the left thigh since fall. No h/o head injury, vomiting, LOC, ear and nose bleed.

Investigations
- Hb: 13.4.
- BGT: B positive.
- Virals: HIV, HBsAg, HCV:NR.
- RFT: WNL.
- Serum electrolytes :WNL.
- USG abdomen :NAD.
- ECG:WNL

CT BRAIN – NAD

CT ABDOMEN & THORAX – NAD

Patient posted for elective fixation of fracture under regional anaesthesia. Closed reduction and internal fixation with intramedullary interlocking was done patient shifted to icu with stable vitals.

Chest X ray AP view

X-RAY of left thigh

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MRI report: punctate hyperintense foci on T2 images showing restricted diffusion in the periventricular and deep white matter of bilateral fronto parietal regions

Findings suggestive of cerebral fat embolism.

- MRI Brain

Post OP X-ray

**Diagnostic criteria:** Gurd's criteria most commonly used.

**Other indexes are:** Schonfeld index, Lindeque index

**Management:** Supportive management

Adequate ventilation and oxygenation, Adequate hydration, Antibiotics, Nutrition, Corticosteroids, Heparin

**Prognosis**

Prognosis of FES is generally favourable

- Good supportive care during patient recovery can decrease mortality rate to less than 10%
- Dermatological, neurological and respiratory manifestations generally resolve without consequences.
- In patients with high index of suspicion of FES a combination of clinical criteria and MRI brain will enable early diagnosis and accurate diagnosis of FES

**References**
