

Abstracts of the WCMSR

01. A RARE COMPLICATION OF CALCANEAL FRACTURE IN A CHILD: FOOT COMPARTMENT SYNDROME.

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BACKGROUND: The calcaneus is one of the seven tarsal bones that make up the hindfoot. With 23% of patients, calcaneal fractures are the most common cause of foot compartment syndrome, followed by Lisfranc injuries (21%) and mixed metatarsal or phalangeal fractures (18%). Calcaneal fractures in children are uncommon, with documented rates between 0.005% and 0.41%. When pressure inside a closed fascial compartment impairs tissue perfusion, irreversible ischaemia and tissue necrosis result, leading to compartment syndrome.

THE CASE: A 10-year-old child was presented to the emergency department following a road traffic accident (RTA). Patient was fully conscious with a Glasgow Coma Scale (GCS) score of 15/15 and haemo-dynamically stable. Patient's chief complaint was severe pain and swelling of left foot. There was no any neurological deficit and other systems examination were also normal.

On local examination, as on presentation, massive swelling and tenderness of left foot with painful restriction of range of motion (ROM) was noted. Several abrasions noted over extremity.

INVESTIGATIONS

Radiological

On plain radiographs of left foot and ankle, calcaneum fracture was noted shown in Figure. The presence of open physes of distal tibia and fibula was clearly evident. Such open physes was expected in the patient since radiological findings were consistent with skeletal maturity. Also, severe soft-tissue swelling over tarsal and metatarsal regions was evident. Compartment pressure measurement facility wasn't available in our hospital. Based on clinical findings and investigations, a diagnosis of left calcaneal fracture complicated by acute compartment syndrome of the foot was made.

Management

The patient was treated with emergency fasciotomy under spinal anesthesia due to the limb threatening nature of the condition. Multiple medial, lateral, and dorso-medial incisions were made over foot and leg. The patient was found to have a massive hematoma which was evacuated. Multiple compartments were released to reduce the raised intra-compartmental pressure. Stay sutures were applied and wounds were left open to facilitate continued decompression and drainage.

Postoperative follow-up

For postoperative patient care, a treatment plan was put in place to address infection prevention, pain relief, and support. To minimize infection risk, IV broad spectrum antibiotics were given. Pain control was achieved through a multimodal approach: anti-inflammatory and opioids were combined for effective analgesic therapy. Besides, the patient was given pantoprazole for stomach protection against stress-related mucosal injury. As hemoglobin was low, blood transfusion was also done. Regular monitoring including wound

condition, distal neurovascular status, and serial laboratory parameters were key patient management feature to ensure prompt identification of any complications and decision-making on further management.

CONCLUSION: Although they are uncommon in children, calcaneal fractures do carry a significant risk of acute foot compartment syndrome. To prevent irreversible tissue damage and long-term functional issues, it's critical to recognise early clinical indications, such as unbearable pain, swelling, and hard compartments, and to undergo surgery very away. This example demonstrates how important it is to monitor children with serious foot injuries caused by high-energy mechanisms and to undergo fasciotomy as soon as possible in order to get the best outcomes.

Key Words: Compartment syndrome, calcaneal fracture, fasciotomy, foot injuries.



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