

Case Report

An unusual case of metallic foreign body in the left knee: a rare case report

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Received: 23 April 2017

Accepted: 20 May 2017

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ABSTRACT

Foreign bodies in the knee joint are uncommon, particularly those not related to surgical procedures. We present a rare case of an intraosseous metallic foreign body penetrating the lateral femoral condyle at left knee causing pain, which was removed with complete resolution of the symptoms due to walking – running injury in a child.

Keywords: Foreign body, Left knee, Walking-running injury, Lateral femoral condyle

INTRODUCTION

Knee injuries are common and account for 15% to 50% of all sports injuries. The incidence of knee injuries are high in youth playing soccer, ice hockey, downhill skiing, team hand ball and basketball.¹ Penetration of foreign bodies can occur due to some mechanisms like road traffic accidents, explosions, or occupational accidents involving cuts in the skin.^{2,3} In these situations, the majority of foreign bodies reported are located in the soft tissues, particularly in the subcutaneous tissue, facilitating diagnosis and access to these structures.^{4,5} One region that is more prone to the presence of foreign bodies following lesions is the foot, particularly the sole of the foot, which is subjected to constant trauma when walking.⁶ Reports of intraosseous foreign bodies are more common after surgical treatment with orthopaedic implants particularly anchors, and their diagnosis other than these situations is rare.^{7,8}

In this case report, we present a rare case of an intraosseous foreign body case of an intraosseous foreign body penetrating the lateral femoral condyle, due to walking - running injury in a child which was diagnosed

on imaging. The foreign body was removed, with complete resolution of the symptoms.

CASE REPORT

An 11 year old boy presented to the emergency room with complaints of pain and injury to his left knee after a fall while playing 5 days earlier, with other children. He was treated in a local hospital, for what was thought to be a superficial laceration with Injection tetanus toxoid, analgesics and antibiotics.

Physical examination 5 days after the fall revealed, diffuse tenderness on the left knee. Plain radiographs showed radio-opaque foreign body at left knee, penetrating the lateral femoral condyle near the growth plate (Figure 1). The nature of the foreign body was not clear because it was not dense enough for a cortical bone or metal but was too dense for glass shadow. The origin of the suspected foreign body was also doubtful since there was no bony injury and no obvious entrance wound, apart from the well-healed superficial laceration. Laboratory tests revealed, total counts –14100 cells/cumm, Neutrophils –57%, Lymphocytes –30%,

ESR –42 cumm/hr. Patient was planned for foreign body removal from the left knee with c-arm guidance under general anaesthesia. During surgery, fluid and a few synovial flakes were found. The medial compartment and the cruciate ligaments were normal. In the lateral compartment, a metallic piece found was a thin sharp needle (foreign body), penetrating in to the cartilage of the lateral femoral condyle near the growth plate. Foreign body was removed under c-arm guidance and thorough wash given. After surgery, antibiotics were given and relative rest was advised. Post-operative period was uneventful and patient was discharged. On one month follow up his left knee function was normal & no subjective complaints.



Figure 1: Plain X-ray showing radio-opaque foreign body at left knee, penetrating the lateral femoral condyle near the growth plate.

DISCUSSION

Foreign bodies in the knee joint are uncommon. There are reports of foreign bodies caused by penetration of the skin or after arthroscopy. When being intra-articular, they can cause lesion of the cartilage, meniscus or ligaments.^{9,10}

In the case reported, no major intra-articular lesion occurred. A small, very sharp piece of metallic needle had penetrated the skin without an obvious entrance wound and reached the cartilage of the lateral femoral condyle. Since the boy had fallen in a dusty environment due to walking-running injury while playing, we suspect this playing area must have had metallic components like sharp objects, pins and needles along with dusts. The cause of the pain was probably due to a local inflammatory reaction of the bone adjacent to the sharp metal, and removal of the foreign body led to an improvement in the pain & movement.

We believe that deep skin lesions, particularly those caused by high speed trauma or fall should be submitted

to X-ray. In the present case, this diagnosis could have been made during the initial evaluation if X-rays had been performed. Often, small fragments of metal or glass can get lodged in the soft tissues or bones and may not be visible, even in an initial exploration of the lesion; therefore, routine imaging is an important complementary tool for accurate diagnosis.

CONCLUSION

The case presented here is important, as we found no similar report in the literature to which we have access, with the exception of post-surgical cases, where the metal or absorbable implants used can cause granulomatous reactions or intraosseous cyst.^{8,9} In the case of metal implants in situations of postoperative follow-up, patients generally receive regular radiographic control, which facilitates the diagnosis. Due to the absence of major joint lesions and the technique carried out preserved the joint cartilage, on removal of the foreign body, the patient showed total recovery of knee joint function & disappearance of his symptoms.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

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Cite this article as: Rajan EB, Reshma S. An unusual case of metallic foreign body in the left knee: a rare case report. *Int J Res Orthop* 2017;3:895-7.