Research Paper

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A Rare Case of Sickle Bone Infarct Simulating Osteomyelitis

Medical Science

KEYWORDS : sickle cell disease, vaso-occlusion, osteomyelitis, Bone infarct

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ABSTRACT

An unusual case of bone infarct in tibia in young adult having no significant past history. Patient came to opd with left tibia swelling and pain since 1 month.we admitted the patient and investigate the patient thoroughly. Initially, Clinical picture suggesting of osteomyelitis but after investigation we came to know patient have tibia bone infarct due to sickle cell occlusive disease. Then patient managed conservatively with analgesics and rest. Patient returned to his routine works in 2 weeks.

Introduction

Bone involvement is the commonest clinical manifestation of sickle cell disease both in the acute setting such as painful vaso-occlusive crises, and as a source of chronic, progressive disability such as avascular necrosis. Management of these problems is often difficult because of the diagnostic imprecision of most laboratory and imaging investigations and because of the lack of evidence for most surgical procedures in sickle cell disease. This review first discusses the acute problems related to bone involvement in sickle cell disease, with particular reference to differentiating infection from infarction, and then describes the long-term effects of sickle cell disease on bone mineral density, growth, and chronic bone and joint damage. Most common bone involves are humerus, tibia and femur in order.

Case Report:

A 27 yr old male patient came to orthopaedic opd with chief complaint of pain and swelling and erythema over left leg since 1 month. He was admitted in civil hospital ahmedabad for further management.

Physical Examination

Patient was conscious oriented and cooperative and general status was normal except mild fever with pain, swelling and redness over left leg . Left leg appear swollen in the middle part with local area is warm and tenderness present on palpation without any discharging sinus. Leg length is normal on comparison with opposite side. Full range of movement present in LT Knee and ankle. No limping or cough seen.

Past history

History of abdominal pain several times at the age of 22 yrs with gradually increasing size of abdominal mass from upper Left abdominal quadrant. Patient went to private hospital and started unknown medication for long term leads to gradual decreasing abdominal mass in 1 yr.

Xrays:

Fig 1.1 shows multiple ill defined hypodense area in upper half of left tibia with periosteal reaction.

Fig 1.2 No significant finding in Right tibia

Investigation

CBC : within normal limits except decresed Hb and slight decrease in MCV MCH MCHC and marginally elevated WBC count.

CRP : Negative

HIV/HBsAG : Negative

ESR : within normal limit

Marginally raised WBC with mild fever in contrast to Normal CRP guide us to think about different etiology other than infection. Soon further investigation we found NESTROF and Sickling dramatically positive which was confirmed by Hb electrophoresis.

On USG abdopelvis spleen appears lobulated and altered in echo texture P/O sequelae of infarct.

USG guided local aspiration done by 16 G bone marrow needle. On fluid cytology only haemorragic materials seen and no tumor or atypical cells seen.

MRI:

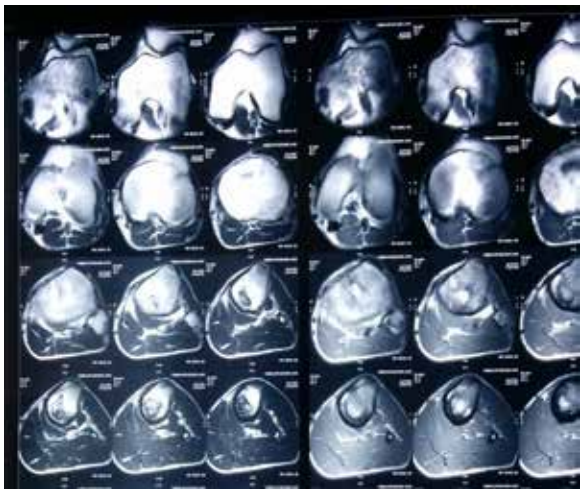

Fig : 2.1

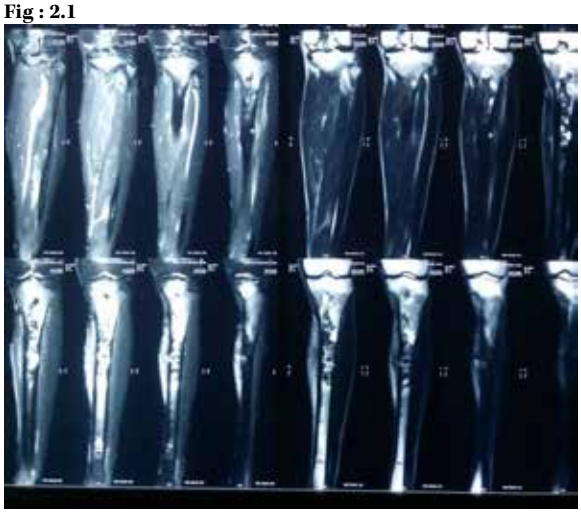

Fig : 2.2

Fig : 2.3

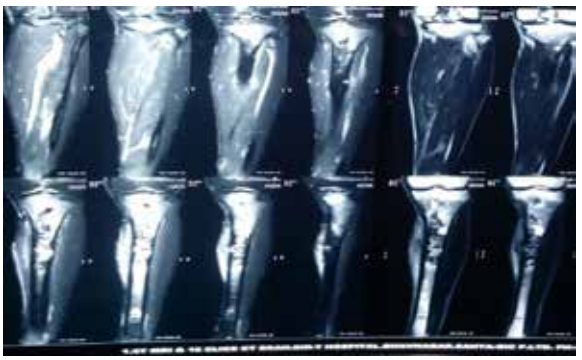

Fig : 2.4

Fig 2.1, 2.2, 2.3 , 2.4 showing altered marrow signal with geographical pattern in MRI of both legs.

We have done MRI both legs for further differential diagnosis shows altered marrow signal with geographical pattern involving LT tibia from diaphyseal and metaphysical confluence involving the diaphysis till the lower tibia with no evidence of significant bony expansion. Possible break in medial cortex with mild extension in soft tissue out in the subcutaneous plane S/O secondary infarct secondary to systemic disease like sickle cell anaemia. simalar area seen in mid Rt tibia which was not seen in plain x ray.

Treatment

Initially , according to clinical picture patient was treated with higher intravenous antibiotics suspecting of osteomyelitis. But after all the investigations and MRI findings directed to the diagnosis of bony infarcts due to vaso-occlusive crisis due to sickle cell anemia, patient was shifted on higher analgesics and immobilization with above knee slab. Dramatically patient improved with decrease in swelling and pain over 2 weeks. Patient returned to his routine work with oral analgesic medication support.

Summary and Conclusion

The vast majority of complications affecting patients with sickle cell disease are musculoskeletal in origin and, although they do not contribute significantly to mortality, they are the major source of acute and chronic morbidity. Despite their significant clinical and socioeconomic impact, the resources available to diagnose and treat bone disease in sickle cell disease remain limited. The use of hydroxycarbamide has significantly altered the quality of life of those with recurrent vaso-occlusive crises but the treatment of acute crises remains largely supportive. despite the availability of early diagnosis, no strategy other than absolute bed rest has yet been shown to prevent progression of joint damage and surgery is associated with a high rate of postoperative complications. Finally, it is clear that most, if not all patients with homozygous sickle cell disease have abnormal skeletal growth and maturation; the mechanisms and implications of this for the health of children and adults with this disease remain to be explored.

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