

Objective

To report a case of CRMO presenting with pyrexia of unknown origin, in which the diagnosis was reached with the aid of a whole body MRI. Subsequent discussion is focused on the role and advantages of whole body MRI in diagnosis and management of CRMO.

Materials and Methods

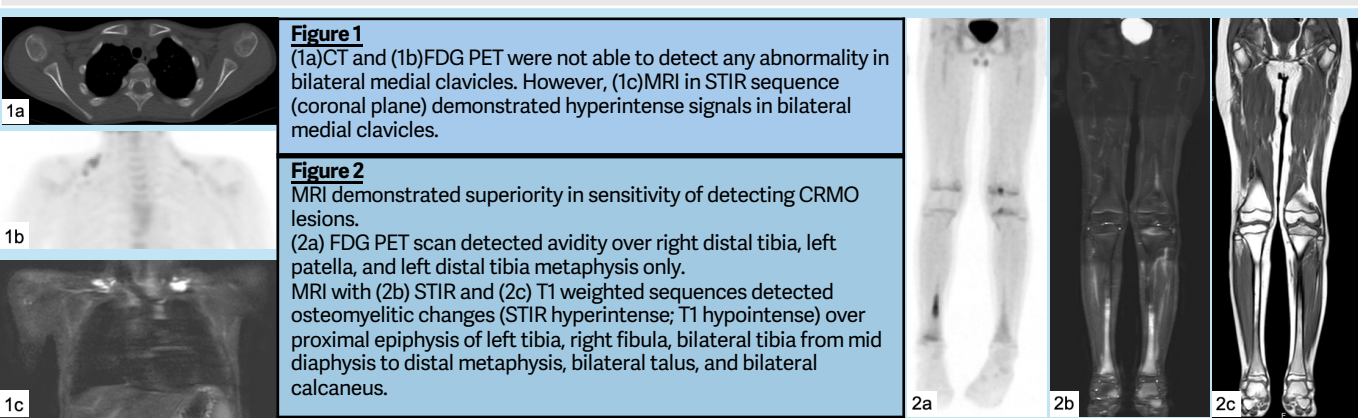
A retrospective review of a case with clinical and radiological features of CRMO.

Results

The reported case demonstrated the role of whole body MRI in diagnosis of CRMO, and also its strengths in comparison to other imaging modalities, including plain radiograph, CT, and FDG PET.

Case Presentation

A 9-year-old Chinese boy with good past health presented with pyrexia of unknown origin for more than 3 weeks. In view of persistent fever despite intravenous antibiotics and absence of localising symptoms, a whole body FDG PET-CT scan was done, which showed FDG avidity in bilateral distal tibia and left patella. A whole body MRI with contrast was subsequently performed, which demonstrated osteomyelitic changes at multiple sites, including bilateral medial clavicles and bilateral lower limbs. No associated periosteal reaction, abnormal fluid collection, fracture, or leg length discrepancy was seen. The abnormalities were not detected in plain radiographs and CT scan. Integrating the clinical presentations and imaging findings, diagnosis of chronic recurrent multifocal osteomyelitis was suggested, and patient's fever subsided after initiation of a non-steroidal anti-inflammatory drug. He would be followed up in the rheumatology clinic.



Discussion and Conclusion

Chronic recurrent multifocal osteomyelitis (CRMO) is an idiopathic non-infectious inflammatory disorder of the bones, primarily affecting paediatric population. It remains a diagnostic challenge. Among different imaging modalities, whole body MRI is the gold standard for diagnosis, since it can establish a multifocal and bilateral pattern, help exclude other differential diagnosis, and allow monitoring of treatment response. It also has highest sensitivity as compared to plain radiograph, CT, and FDG PET, and it does not have any radiation. If a typical pattern can be established, further invasive investigations such as bone biopsies can be avoided. Therefore, it is crucial for radiologists to be familiar with this entity and its radiological features, so as to provide an accurate diagnosis and guide further management.

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