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SUMMARY

Tuberculosis rib osteomyelitis is a rare clinical entity that is more prevalent in developing countries. We report the case of multifocal tuberculous osteomyelitis/osteochondritis of ribs on a 23 years old sickle cell female patient. This observation aims to raise the awareness of rib osteomyelitis for which mycobacterium tuberculosis is the first pathogen involved in the process in developing countries.

INTRODUCTION

Mycobacterium tuberculosis is the first cause of rib osteomyelitis in developing countries (1). Tuberculous osteomyelitis of rib is an entity characterised by its rarity and unspecific symptoms (2). Consequently, it is often misdiagnosed or adequate diagnosis is frequently delayed. We report the case of a 23 years old patient with sickle cell disease that had developed multifocal tuberculous osteomyelitis/osteochondritis of ribs that was mimicking a bacterial hepatitis.

CASE REPORT

A 23 years old Congolese female with sickle cell disease was admitted to the Haematology Unit in Brazzaville Teaching Hospital for fever and vaso occlusive crisis. On the physical examination, the patient had fever at 38.9°C and pain in the left and right upper quadrants, and an enlarged liver. Her routine blood investigation showed a leukocytosis at 18giga/L, hemoglobin rate was at 5.6 g/dL, platelets were high at 1.256 giga/L. ESR (erythrocyte sedimentation rate) was over 150 mm in 1st hour. Liver enzymes were high, respectively 77 UI/L for ALT and 65 UI/L for AST. She was negative for the hepatitis B, C and HIV.

We made the presumptive diagnosis of bacterial hepatitis and initiated an antibiotherapy. During the treatment, the patient remained febrile and physical examination showed on the 10th day a swelling mass involving the left anterolateral chest wall that was measuring 5X4cm. On the careful palpation the mass was warm, painful, elastic and soft and was developed in regard of the 8th left rib. Chest X-ray

was interpreted as normal. Computed tomography (CT) of the chest with and without contrast showed in the left anterolateral side destructive lesions of 6th, 7th and 8th rib and 8th costochondral join (Figure 1). The posterolateral side of the chest showed destructive lesion of the 8th rib (Figure 2). The mass was diagnosed as bacterial multifocal osteomyelitis/osteochondritis of the ribs. We presumed that the pathogen was either salmonella or staphylococcus aureus. We switched antibiotics to other: lincosamide and levofloxacin. Not improvement was noticed, the patient was still developing fever, losing weight and the size of the mass was increasing. Even though the patient was not reporting any tuberculosis risks, we did a Mantoux tuberculosis skin test that was positive at 20mm. The diagnosis of multifocal tuberculous osteomyelitis/osteochondritis of the ribs was made.

Figure 1

Chest computed tomography demonstrates in the anterior left side destructive lesions of the 5,7 and 8th rib



Figure 2

Chest computed tomography demonstrates in the posterior left side destructive lesion of the 8th rib



Antituberculosis therapy was initiated. Three weeks into treatment, an improvement was noticed. The patient was not febrile and the mass was not painful. The patient was discharged and is monitored monthly.

DISCUSSION

Osteomyelitis is a well known complication of sickle cell patients (3). Common sites involved in osteomyelitis are metaphysis of long bones such as femur, humerus and vertebrae bodies. Less common sites are ulna, radius, cranium sternum and ribs. The most pyogenic causes of osteomyelitis are salmonella in developing countries and staphylococcus aureus in developed one(3).

Rib osteomyelitis is rare and accounts for more than 1% of all haematogenous osteomyelitis cases (1). Rib osteomyelitis is frequently due to Mycobacterium tuberculosis in developing country(1). Our observation showed that even with its epidemiological scarcity, this diagnosis should be raised especially in regions endemic for tuberculosis. Biopsy whether open or CT guided confirmed the diagnosis (4). Unfortunately, these techniques are not available in sub-Saharan region or not affordable for the population. Therefore, medical providers should have a high degree of suspicion in multiple destructive lesions of the rib especially in patients

from regions endemic for tuberculosis (4).

Diagnosis of tuberculous osteomyelitis is difficult as symptoms are non specific and subtle (2). The most common clinical presentation is an insidious development of pain and swelling over many months. Erythema, swelling, tenderness, bone deformity, fracture and abscess may be seen but are not common (5). These symptoms lead to misdiagnosis or delayed diagnosis and prompt recovery. Consequently, in most reported cases, the diagnosis is long and can sometimes exceed 6 months period (2).

Tuberculous rib osteomyelitis is mostly due to a dissemination of mycobacterium tuberculosis through lymphatic vessels (4). There was no evidence of tuberculosis infection elsewhere in our patient, therefore differential diagnosis was discussed as malignant or benign tumor involving ribs. The diagnosis is eased when there is a history of past tuberculosis infection in the past, which was not our case.

Surgical procedure as debridement is reported by some authors to be necessary in treating ribs following by six months of antibiotics while others recommend only antibiotics (4,6).

In conclusion, diagnosis of rib tuberculous osteomyelitis should be considered whenever a patient from a country endemic for tuberculosis presents chronic rib pain or rib swelling.

REFERENCES

1. Peltola, H. and Pääkkönen, M. Acute osteomyelitis in children. *N. Engl. J. Med.* 2014; **370**: 352-60.
2. Raffaelli, G., Borzani, I., Pinzani, R. *et al.* Abdominal mass hiding rib osteomyelitis. *Italian Journal of Pediatrics.* 2016; **42**:2-4.
3. Almeida A and Roberts I. Bone involvement in sickle cell disease. *BHJ.* 2005; **129**: 482-90.
4. Agrawal, V., Jshi, M.K., Jain, B.K., Mohanty, D. *et al.* Tuberculosis osteomyelitis of rib- a surgical entity. *Interact. Cardiovasc. Thorac. Surg.* 2008; **7**: 1028-30.
5. Gardam, M. and Lim, S. Mycobacterial osteomyelitis and arthritis. *Infect. Dis. Clin. North. Am.* 2005; **19**: 819-30.
6. Chen, S.C., Huang, S.C. and Wu, C.T. Non spinal tuberculosis osteomyelitis in children. *J. Formos. Med. Assoc.* 1998; **97**: 26-31.