

Wrist swelling – Is it tuberculosis?

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ABSTRACT

The hand and wrist are rare sites for tuberculosis (TB) and account for < 1% of all skeletal TB. Though rare, TB of the wrist is a cause of major morbidity. A common feature in the available reports on wrist TB is a delay in diagnosis causing residual stiffness and pain after treatment. Although TB of the wrist has a varied presentation, the majority of lesions respond to conservative treatment. We report a 12-year-old girl who presented with wrist swelling, having intercarpal, carpometacarpal, and radiocarpal joint involvement which turned out to be tuberculous and it healed with residual deformity.

Keywords: Children, musculoskeletal, tuberculosis, wrist

Background

The hand and wrist are rare sites for tuberculosis (TB) and account for <1% of all skeletal TB. Though rare, TB of the wrist is a cause of major morbidity.^[1] A common feature in the available reports on wrist TB is a delay in diagnosis as the disease has an insidious and indolent course^[2] causing residual stiffness and pain after treatment. Although TB of the wrist has a varied presentation, the majority of lesions respond to conservative treatment. We report a 12-year-old girl who presented with wrist swelling, having intercarpal, carpometacarpal, and radiocarpal joint involvement which turned out to be tuberculous and it healed with residual deformity.

Case Report

A 12-year-old girl presented with gradually increasing swelling of the left wrist joint for 6 months associated with pain and restriction of movement. There was no cross fluctuation or lymphadenitis. There was no contact with TB and other joints were normal. Other systems were normal. She was immunized

with Bacillus Calmette–Guérin at birth. Our clinical diagnosis was left wrist arthritis and our differentials were tuberculous arthritis, juvenile idiopathic arthritis, and septic arthritis of the wrist joint. Chest X-ray was normal and HIV ELISA was negative. Magnetic resonance imaging (MRI) of the left wrist showed infective arthritis involving the intercarpal, carpometacarpal, and radiocarpal joint suggestive of TB. She underwent synovial biopsy by dorsal approach, which on histopathology showed multiple caseating epithelioid granulomas suggestive of TB. Smear on Ziehl–Neelsen (ZN) stain showed the presence of two acid-fast bacilli (AFB). TB culture at the end of 6 weeks did not grow any organism. She was started on isoniazid, rifampicin, ethambutol, and pyrazinamide for 2 months followed by isoniazid and rifampicin for rest of the treatment duration.^[3] At 6 months of anti-TB treatment (ATT), her ultrasound of the wrist showed carpal bone erosion and collection in radiocarpal and intercarpal bones. She was given ATT for 1 year. She was left behind with residual left wrist contracture.

Discussion

TB of the wrist is slowly progressive, which causes difficulties in early diagnosis. Late diagnosis leads to poor functional outcome even in the presence of regular ATT.^[4] Pain and swelling are the most common presenting features, followed by discharging

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sinuses.^[5] A similar case was recently reported where a 10-year-old boy presented with painful swelling in the dorsum of the left wrist joint of 5-month duration.^[6] Our patient also presented with pain, swelling, and restriction of movement for 6 months. Skeletal involvement in TB wrist usually includes capitata and distal radius.^[7]

Like another prospective study of five patients,^[7] where all patients underwent an open biopsy, curettage and diagnosis confirmed by histopathological/microbiological examination, our case also had histopathology showing multiple caseating epithelioid granulomas and smear on ZN stain showed the presence of two AFB.

A prolonged course of ATT is the basis of treatment. The treatment of TB of the wrist is primarily and essentially medical, with surgery reserved for certain situations or complications.^[8,9] Watts and Lifeso^[10] recommended that treatment should be continued for a minimum of 12 months for osteoarticular involvement. In our case too, 6 months of treatment had shown only partial involvement, and hence, treatment was continued for 12 months.

Although the symptoms may not be dramatic, chronic infection tends to be progressive and eventually results in radiographically evident destruction of cartilage and bone. There was a recent case report in the Indian setting, of an 8-year-old boy having wrist TB presenting as hamate osteitis. At 6-month follow-up, the patient had no pain or deformity at the wrist. He had some restriction of motion, with 40 degrees of palmar and dorsal flexion and 20 degrees of ulnar and radial deviations being possible. The lesions also healed radiologically without any sequelae.^[11] Our patient had a deformity at the end of treatment. Wrist stiffness is seen frequently and has a significant functional impact.

Limitations

Follow-up MRI of the patient could not be done.

Conclusion

Tuberculous arthritis of the wrist is a rare condition. Diagnosis is often difficult due to slow progression and nonspecific symptoms. Definitive diagnosis depends on histopathological examination and microbiological confirmation. Antituberculous treatment is effective, but the functional outcome depends on early diagnosis before the development of radiological evidence of joint destruction. Recurrence after treatment is common, and hence, follow-up in every case is mandatory.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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