CASE REPORT

Tuberculosis of the triceps muscle

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Accepted 14 December 2014

SUMMARY

A tubercular swelling of the triceps muscle in a 25-year-old immunocompetent man is described in this report. He presented with hard, fixed swelling at the lower end of the triceps muscle. Confirmatory diagnosis was established by fine-needle aspiration cytology (FNAC) of the swelling with subsequent PCR for *Mycobacterium tuberculosis* of the FNAC specimen. The patient was completely cured with antitubercular therapy.

cases of disseminated tuberculosis, skeletal muscles are rarely involved. Involvement of muscle by tubercular process without involvement of the underlying joint is a rare presentation. We report a rare case of isolated tuberculosis of the triceps muscle without involvement of the underlying joint. The involvement of triceps by tubercular process in our case seems to be primary as no other foci of tuberculosis were detected elsewhere in the body.

BACKGROUND

Very few cases of tuberculosis of the triceps muscle have been reported in the literature as the skeletal muscles are rarely affected by tuberculosis.¹ Even in

CASE PRESENTATION

A 25-year-old immunocompetent man of average built presented with a progressively increasing swelling of 4×4 cm directly above the medial aspect of the right elbow joint at the lower end of the triceps muscle. The patient also had reported increased fatigue and loss of weight (4 kg approximately) in the past 1 month. On examination, the swelling was slightly tender to touch, of hard inconsistency and immobile, with slight erythema of the overlying skin (figure 1). There was no restriction of movement in the ipsilateral elbow joint.

INVESTIGATIONS

Routine haemogram was within normal limits except for reduced haemoglobin of 10.2 g% and raised erythrocyte sedimentation rate (35 mm in first hour). A Mantoux test revealed an induration of 22 mm after 72 h. Chest X-ray was within normal limits. X-ray (anteroposterior and lateral views) of the ipsilateral elbow joint showed no involvement of the underlying bone or joint (figure 2). Ultrasound of the right forearm (figure 3) reported a

Figure 1 Swelling at the lower end of the triceps muscle with slight erythema of the overlying skin.

Figure 2 X-ray (anteroposterior and lateral view) of the ipsilateral elbow joint showing no involvement of the underlying bone or joint.

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To cite: Meena M, Dixit R, Samaria JK, et al. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2014-207032

Figure 3 Ultrasound showing a 34×11×15 mm solid cystic lesion in the superficial plane of the forearm with a volume of 3.3 cc, and another hypoechoic cystic lesion with a volume of 0.3 cc seen in the muscle plane of the triceps approximately 3.5 cm deep to the first lesion.

34×11×15 mm solid cystic lesion in the superficial plane of the forearm with a volume of 3.3 cc, and another hypoechoic cystic lesion with a volume of 0.3 cc was seen in the muscle plane of the triceps approximately 3.5 cm deep to the first lesion. Subsequent fine-needle aspiration cytology (FNAC) was advised. FNAC was carried out with cytopathological examination revealing epithelioid cell granuloma intermingled with multinucleated giant cells and lymphocytes over a necrotic background, which was consistent with tuberculosis (figure 4). PCR for the FNAC specimen was also positive for *Mycobacterium tuberculosis*.

DIFFERENTIAL DIAGNOSIS

Soft tissue sarcoma, hydatid cyst of muscle, other soft tissue tumours such as myxoma and haemangioma were the important differential diagnosis.

TREATMENT

Following cytopathological confirmation of the disease, the patient was started on an intensive phase of four drug (isoniazid, rifampicin, pyrazinamide, ethambutol) antitubercular therapy.

Figure 4 Cytopathological examination revealing epithelioid cell granuloma intermingled with multinucleated giant cells and lymphocytes, consistent with tuberculosis.

OUTCOME AND FOLLOW-UP

The patient showed progressive improvement under antitubercular therapy with complete resolution of swelling at the end of 2 months of intensive phase. On repeated follow-up, the patient showed significant clinical improvement with appreciable weight gain. Therapy was continued for a total of 6 months.

DISCUSSION

Musculoskeletal tuberculosis comprises of about 1–5% of all forms of tuberculosis.² Petter³ recorded only one case of primary muscular tuberculosis in over 6000 cases of all types of tuberculosis; an incidence of 0.015%. Involvement of skeletal muscles by tuberculosis can result from direct extension from bone, synovial lining of joints or tendon sheaths by direct inoculation and rarely by haematogenous dissemination,¹ however, selective primary muscular involvement without underlying osseous involvement is rare. The rarity of skeletal muscle tuberculosis has been attributed to various factors including high lactic acid content of these muscles, absence of reticuloendothelial/lymphatic tissue, rich blood supply and highly differentiated state of muscle tissue.⁴ Tubercular focus mostly presents as pain and swelling of the affected muscle. Other constitutional symptoms of tuberculosis may or may not be present. The diagnosis of skeletal muscle tuberculosis remains a challenge for clinicians and requires a very high index of suspicion. The combination of clinical tests with radiological and cytopathological imagery, and a positive tuberculin skin test, provide strong clues pointing to a diagnosis of skeletal muscle tuberculosis. Prompt diagnosis and

Learning points

- ▶ Isolated skeletal muscle tuberculosis without involvement of underlying bone and joint is rare.
- ▶ X-ray and MRI should be performed in all muscular swelling cases to rule out underlying bone involvement.
- ▶ Cytopathological examination of fine-needle aspiration cytology/biopsy specimens is the gold standard to make a diagnosis of muscle tuberculosis.

management of muscle tuberculosis with antitubercular chemotherapy is important to prevent the extension of disease to underlying bone and joint. The prognosis is good in tuberculosis when treated with appropriate chemotherapy.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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