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Cervical Spine Tuberculosis: A Case Report

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Abstract: Bone localization of tuberculosis mainly affects the thoraco-lumbar spine. The cervical spine is rare. Its diagnosis is often late which exposes to great instability and potentially serious complications. We reported the case of a 10-year old boy with no medical history, showed torticollis and high temperature without neurological complication. In the physical examination, he had torticollis and pain in the third, fourth and fifth cervical vertebra. When biopsy was performed, we find an inter apophysis (between C3 and C4) collection. The histological examination confirmed the diagnosis of apophysis tuberculosis. The management based on tuberculosis chemotherapy and immobilization started as soon as possible.

Key words: Tuberculosis, cervical, spine, apophysis.

1. Introduction

Tuberculosis spine involvement is the most common site after pulmonary localization. Neurological complications and orthopedics deformation represent the severity of this affection. Bone localization of tuberculosis mainly affects the thoraco-lumbar spine and usually interests the vertebral body. Isolated posterior arch involvement is exceptional.

2. Case Report

A 10-year old child consults for febrile torticollis, without alteration of the general condition, and the evolution was for three weeks. The medical history of the patient does not find any pathological history, and he was well vaccinated. There was no tuberculosis notion of contagion.

Physical exam found a torticollis with mild pain in palpation in the lower cervical spine, while there were no swell and the temperature was 38~38.5°, we noted a biological inflammatory syndrome (WB: 16,000 mg/L; SR: 70 mg/L; CRP: 200 mg/L). The tuberculin skin test was positive, and search of TB (tuberculosis) in sputum and urine was negative.

X-Ray of the cervical spine was normal. More investigation with MRI were done and showed: signal abnormality of the cancellous bone of the posterior arch of C7 and D1, extended to the back of the vertebral body such as hypsignal in T1, discreet hyper signal in T2, taking contrast after gadolinium injection. This signal abnormality is associated with posterior unilamellar periosteal reaction of the side of the left vertebral lamina and linear hypo signal T1 of the cortical endo canalar of the posterior arch of D1 and C7 with the presence of some small erosion.

The diagnosis was in favor of specific infection, radiological biopsy was not able for technical reason, so we decided to do a surgical biopsy.

In per operative, we found a collection in the interspinous space. The histological exam confirmed tuberculosis disease.

The patient had tuberculosis chemotherapy for 12 months and immobilization with minerva.

At the follow up of 19 months we note a full motion of the cervical spine without any pain or any sign of recurrence.

3. Discussion

Spinal tuberculosis is the most common localization of the extra pulmonary tuberculosis. Its frequency is estimated to 2% of all localization and 50% of osteoarticular tuberculosis. It mainly affects the thoraco-lumbar spine, the involvement of the lower

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Fig. 1 Hyper signal T2 of the posterior arch of C7 and D1.

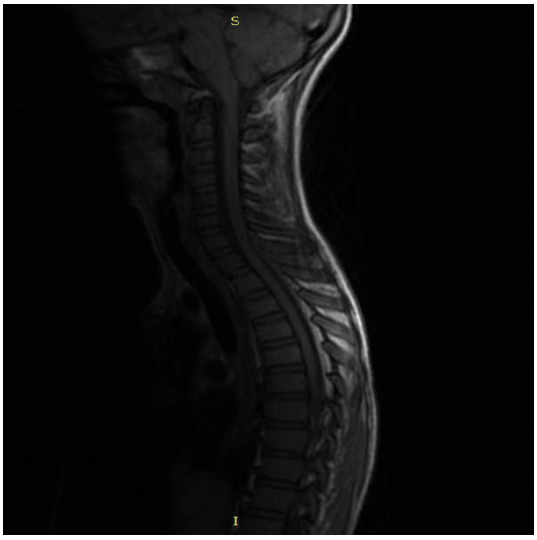

Fig. 2 Hypo signal T1 of the interspinous space C7-D1.

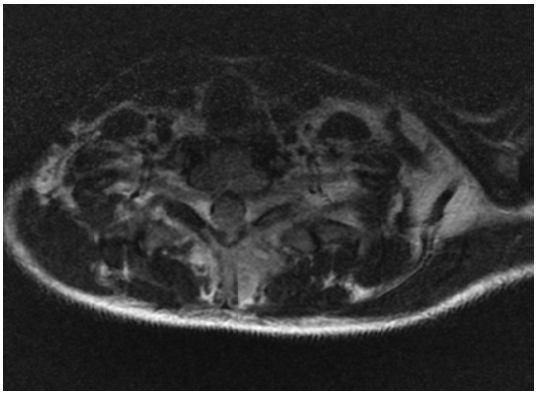

Fig. 3 Signal abnormality associated with posterior unilamellar periosteal reaction and linear hypo signal T1 of the cortical endo canalar of the posterior arch of D1.

cervical spine is estimated between 3% and 5% [1].

Posterior arch involvement is by contiguity in 90%, isolated involvement is more rare estimated to 1~3% of spinal tuberculosis [2-4].

Physical examination is poor and mainly consists in neck pain, signs of tuberculosis impregnation are not constant, and in late evolution neurological compression may be found [3-5].

The tuberculin skin test is contributive in non vaccinated patient. Biological inflammatory syndrome is frequent with high CRP.

Radiological investigations are primordial, X-Ray can demonstrate osteolytic lesion in posterior arch, but this lesions can be difficult to demonstrate, in early manifestation, and due to the interposition of the anatomic element. More investigations help to diagnose. CT scan represents a good alternative to study the posterior arch, and shows the osteolytic lesion.

MRI allows a multiplanar analysis of lesions, a study of the spinal cord shows lesions detected at early stage of granuloma without lysis, it also analyses the soft tissue [1, 3, 6, 7].

Histological confirmation of the diagnosis of TB is mandatory, biopsy with CT scan tends to be the reference procedure. But, if it may not be possible, surgical approach should be performed.

Medical treatment should be initiated early and duration is 9~12 months [8, 9].

Our patient had surgical biopsy, which confirmed the diagnosis. He had the TB chemotherapy for the appropriate period. In the final fellow up, the clinical and radiological investigations have not shown any sign of recurrence.

4. Conclusions

The cervical spine is a rare localization of the tuberculosis. The apophysis localization is a more uncommon localization. The histological examination is mandatory for the diagnosis.

The management based on tuberculosis

chemotherapy and immobilization started as soon as possible, the prognosis depends of early diagnosis and correct chemotherapy adherence.

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