

An exceptional case of multifocal tuberculosis in an immunocompetent patient

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ABSTRACT: Tuberculosis is rife and evolving in an endemic mode in developing countries like Algeria. The multifocal forms usually occur in immunocompromised subjects but they can also affect immunocompetent subjects. Its multiple appearances are often misleading and can make diagnosis very hard. We report a case of multifocal tuberculosis in an immunocompetent 22-year-old girl who presented with multifocal tuberculosis associating osteoarticular involvement including multistage spondylodiscitis, neurological involvement, and abscesses of the soft tissues evolving favorably under treatment. Multifocal tuberculosis is one of the hardest conditions to diagnose. It can affect immunocompetent subjects but its prognosis is often good. Tuberculosis treatment should be started as soon as possible to avoid sequelae.

Keywords: multifocal tuberculosis, immunocompetent, Algeria.

I. INTRODUCTION:

Due to its high incidence, tuberculosis (TB) is a major public health problem in developing countries, particularly in Algeria. Multifocal tuberculosis is defined as the involvement of at least two extra-pulmonary sites, associated or not with pulmonary involvement. Multifocal forms are rare and represent 9 to 10% of extra-pulmonary cases and usually occur in immunocompromised people but can also affect immunocompetent subjects (1). The prognosis for multifocal tuberculosis is poor, with a mortality rate of 16 to 25% according to some reports (2,3).

We report a case of multifocal tuberculosis in a 22-year-old immunocompetent girl who presented with neuro-meningeal tuberculosis, multistage spondylodiscitis, osteitis of the right

iliac wing, synovitis and lytic lesion of the clavicle, and abscesses of the soft tissue. The patient's condition evolved favorably under treatment.

II. CASE REPORT

We conducted a prospective, longitudinal, and exhaustive research study over three years, collecting data on all patients aged over 28 days with suggestive symptoms of HIV-negative encephalitis and meningoencephalitis from three medical departments (resuscitation, infectious diseases, and pediatrics) in our city. Among the 141 cases that were collected, we observed an exceptional case of multifocal tuberculosis with neurotuberculosis and osteoarticular involvement.

A 22-year-old woman with no particular pathological history, correctly vaccinated, living in the countryside, had contact with livestock, consumed unpasteurized dairy products, with no notion of tuberculosis contagion in her environment, and with a BCG scar present was admitted to the infectiology department of Batna for T10-L4-S2 multistage spondylitis as shown on her MRI. The onset of symptoms was progressive, marked by fever, fatigue, painful swelling of the elbow, as well as a painful mass in the clavicle and spinal pain without signs of neurological deficiency. A spinal MRI was carried out showing a specific infectious spondylitis on T10-L4-S2, prevertebral and epidural thickening with a presacral collection and osteitis of the right iliac wing (figure 1). Ultrasound showed synovitis of the elbow and a lytic lesion of the collarbone. The tuberculin IDR was positive (13 mm), CRP was high (96mg/L), associated with anemia and lymphopenia (200/mm³), procalcitonin was low (0.02 ng/ml), blood cultures were negative for common germs, Wright's serology was negative; The search for BK in the sputum and urine was

negative. A check-up searching for possible immunosuppression including HIV serology was negative.

The patient underwent treatment based on rifampicin at anti-staphylococcal dose associated with ciprofloxacin for one month. However, worsening symptoms were observed along with signs consisting of agitation with behavioral disorders and convulsions. A cerebro-medullary MRI has been performed showing two left parietal lesions (figure 2).

III. DISCUSSION:

Multifocal tuberculosis is defined as the presence of at least two extra-pulmonary foci with or without pulmonary involvement, and it usually occurs in immunocompromised patients, mainly HIV carriers. The largest series published belong to Denis and Ghorbel including 47 cases (1,4).

Tuberculosis of the bone is usually solitary, but the presence of multiple lesions that are in different stages of development, as in your case, reflects a hematogenous mode of propagation of bacilli at different times (5). Host immunosuppression is a predisposing factor for multifocal bone involvement (5-7). Tuberculosis of the bone represents 11 to 15% of extra-pulmonary involvement, with vertebral tuberculosis being the main location (50%). Multistage spondylodiscitis is rarely described (8).

Central nervous system involvement is the most severe tuberculous location of the disease. A tuberculoma is a mass of tuberculous granulomatous tissue that has been contained and limited by the host's immune defenses. It is an expansive, intracranial lesion resulting from hematogenous spread. Symptoms are non-specific depending on the location, size, and number of lesions (9).

The particularity in your case is the occurrence of multifocal tuberculosis associating multiple osteoarticular involvement: right iliac osteitis, clavicular lysis, elbow synovitis, abscessed collection of chest wall which translates a costal tuberculosis (5), and a multi-stage cervico-dorso-lumbar spondylodiscitis with paravertebral abscesses and psoas associated with cerebral involvement (which presents the most severe location of tuberculosis) in an immunocompetent patient. Diagnosis was obtained from puncture of the paramedian abscessed mass of the anterior chest wall accessible whose sample objectified the presence of bacilli.

It has been clearly demonstrated that the risk of developing extra-pulmonary damage is proportional to the degree of immune deficiency (1). In your case, the location was multifocal despite being an immunocompetent patient. Several hypotheses have been advanced to explain the occurrence of this severe form of tuberculosis in immunocompetent patients. Some authors have established a relationship between diffuse tuberculosis and the intensity of transmission in the community, while others suggest malnutrition as a contributing factor (1). Cathérinot described the syndrome of Mendelian susceptibility to infections to mycobacteria by the existence of defects of the interleukin 12-interferon gamma axis, exposing to diffuse tuberculosis (10). Tuberculosis treatment was initiated in your patient associated with adjuvant glucocorticoid therapy. The evolution was favorable after 12 months of treatment.

IV. CONCLUSION

Immunocompetent people are not fully protected against severe and diffuse forms of tuberculosis, prompting clinicians to make a prompt lesion assessment even if the patient is not immunocompromised and to initiate anti-tuberculosis treatment as soon as possible to avoid sequelae that can lead to death.

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Figures:



Figure 1. MRI of the spine. spondylodiscitis on L3-L4 levels (upper image), associated with a moderate anterior abscess (down).

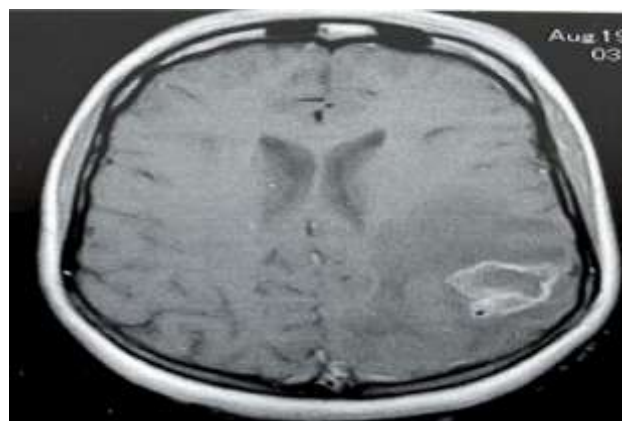


Figure 2. MRI of the brain. Left parietal abscess.