

A patient with back pain and fever

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Case report

In October 1989, a 28 yr old man attended the Clinic for Internal Medicine. He complained of back pain and general malaise. In 1986, he had fled from Bangladesh to Holland. The patient had a completely blank medical history and used no medication, alcohol or drugs of any type. He smoked five cigarettes per day.

The patient complained essentially of: bodily positional-dependent pain in the back, starting some 11 months previously. For the last two months, he had had a temperature of 38.5°C with occasional chills and night sweating, a slightly reduced appetite and a weight loss of 10 kg in three months. There was no alcohol-induced pain or pruritus. There were no pulmonary symptoms.

On examination, we saw a slightly sick young man with a temperature of 38.4°C. Blood pressure was 130/70 mmHg; pulse rate 88 beats·min⁻¹; the neck veins were not engorged. On both sides of the neck

small submandibular, cervical and supraclavicular lymph nodes were palpable. They were not adherent to the underlying tissue and were not painful. Their diameter was about 0.5 cm. Percussion pain was found over the spine at the height of the fifth thoracic joint. The remaining bodily examination revealed no further abnormalities.

The laboratory results gave the following values: erythrocyte sedimentation rate (ESR) 106 mm·h⁻¹; Hb 6.1 mmol·l⁻¹, (normal indices); leucocytes 11.1×10⁹·l⁻¹ (normal differentiation); thrombocytes 397×10⁹·l⁻¹. Electrolytes, creatinine and liver functions were normal except for an elevated serum glutamic pyruvic transaminase (SGPT) (max. 124 U·l⁻¹). Alkaline phosphatase was normal. Subsequent examination revealed the following finding: Mantoux tuberculin test (0.1 ml purified protein derivative (PPD)) 20 mm.

A chest radiogram is shown in figure 1. A computed tomography (CT)-scan at the level of the fifth thoracic vertebra is shown in figure 2 (next page).

A



B



Fig. 1. - Chest X-ray: A) anteroposterior (AP); and B) lateral views.



Fig. 2. - Computed tomogram at the level of the fifth thoracic vertebra.

BEFORE TURNING THE PAGE, INTERPRET THE ROENTGENOGRAM AND THE CT, PROPOSE FURTHER EXAMINATIONS AND SUGGEST DIAGNOSIS AND TREATMENT.

Interpretation of the chest X-ray

The superior mediastinum is enlarged and a cavity with an horizontal fluid level can be seen, situated dorsal to the trachea and projected over the vertebrae.

Interpretation of the CT-scan

There is a destructive process of the fifth vertebra. This process extends beyond the side walls of the vertebrae, indicating on both sides a paravertebral abscess. Behind the trachea there is oedema and a cavity. The oesophagus is within this cavity.

In order to determine to what degree the oesophagus was involved in this process, a barium swallow roentgenogram was made. Thus, it became apparent that a fistula lead to a hollow space (fig. 3). Oesophagoscopy revealed the lumen of the fistula; material was aspirated for examination.



Fig. 3. — Barium swallow roentgenogram before treatment. There is a fistula between the oesophagus and the cavity.

Preliminary diagnosis

Our preliminary diagnosis at this stage was: paravertebral abscess with destructive involvement of the bodies of the fourth, fifth and sixth thoracic vertebrae, with a fistula to the oesophagus. In the differential diagnosis with tuberculosis a mycosis was also considered. The aspiration sample stained according to the Ziehl-Neelsen procedure, did not show acid-fast rods. After a period of two weeks, no mycotic growth had occurred.

Treatment

The spinal pathology had not progressed to such an extent as to cause collapse. It was decided to start therapy with three tuberculostatic drugs: isoniazid, 300 mg daily; rifampicin, 600 mg daily; and pyrazinamide, 1,500 mg daily. On this drug regimen, the clinical

situation improved dramatically and the temperature became normal within five days. Two weeks later the ESR was 56 mm, and one month later only 9 mm. The complaint of pain still remained but was sufficiently suppressed by naproxen.

After ten weeks the Löwenstein culture returned a positive result with fully sensitive bacilli.

Diagnosis

Infection by mycobacterium tuberculosis with destructive spondylitis of the body of the fourth, fifth and sixth thoracic vertebrae, a paravertebral abscess and fistula formation to the oesophagus.

In the following months the X-rays showed a clear reduction in the abnormalities. After therapy, an oesophageal radiogram revealed an acquired traction diverticulum. On the thoracic radiogram only the broad mediastinum remained; the fluid level had disappeared.

Discussion

In 1991, tuberculosis is a relatively rare disease in the Western World; so much so, that general practitioners and specialists alike often do not think of the possibility. Thus, the correct diagnosis is frequently made too late, and even sometimes missed altogether [1, 2]. Globally, tuberculosis is by no means a rare disease, one third of the world's population today being infected with the tuberculosis bacterium. Yearly, the morbidity carries a statistic of approximately ten million people, while the mortality is of the order of three million [3]. Tuberculosis is the largest cause of death from a single pathogen. The highest incidence is in the World Health Organization (WHO) Africa Region (272 per 100,000), whereas the average incidence in Europe, at present, is 27 per 100,000 [4]. Due to increased migration (refugees, foreign workers), tuberculosis should at least always be considered in patients with pulmonary or extra-pulmonary diseases [5]. The risk of infection in early life predetermines the disease model of tuberculosis throughout life, even though the risk of infection is much less in the new environment [6, 7].

In children from ethnic minorities, especially Asians, one finds a high proportion of non-respiratory tuberculosis. Skeletal tuberculosis is an extra-pulmonary form of tuberculosis. Generally this diagnosis is not easy to make [8]. In the literature, delays of 14 months are cited before a spondylitis tuberculosa is recognized [9]. During the years 1974 to 1980, 46 patients with skeletal tuberculosis were registered annually with the Medical Inspectorate in Holland [10]. Skeletal tuberculosis is seldom associated with recognizable lung tuberculosis. The places of preference are the spinal column, the hip and the knee. The chance of cure is greater the earlier the disease is discovered. It is important to maintain the integrity of the bone structure and to prevent the breakout of the destructive process

to the joint. It is not always possible to culture tuberculosis bacteria from joint fluid aspiration. For the diagnosis it is important that the clinical situation should be coupled with X-ray findings.

Henceforth, we suggest that on suspicion of pathology involving a thoracic organ it is not sufficient to perform only a frontal thoracic radiogram, although this limited imaging is a routine procedure in young patients; it should always be accompanied by a lateral radiogram. In the case described here, together with the anamnesis and the tuberculin-test, the lateral radiogram yielded the key to the final diagnosis.

Acknowledgements: The authors are indebted to L. Moeys for typing this manuscript and T. Hagedoorn, medical photographer.

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