



Case report

Delayed diagnosis of severe tuberculous spondylodiscitis in an asylum seeker; patient or doctors delay?



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ABSTRACT

The still increasing global migration affects the epidemiology of tuberculosis (TB) in European countries. We present the case of an asylum seeker from a TB high-endemic country, who presented with severe TB spondylodiscitis and need for emergency surgery. The patient had a history of recurrent sterile axillary and perianal abscesses for years, but TB was never properly ruled out. The patient underwent surgery, responded well to antibiotics and regained the ability to walk. After 6 month of treatment the patient was lost to follow-up. In light of the increasing migration from TB high-endemic countries to low-endemic countries, this case illustrates the paramount importance of minding TB as a differential diagnosis.

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1. Introduction

Tuberculous spondylodiscitis accounts for <5% of all tuberculosis (TB) cases and is a rare but extremely serious clinical condition, which, if undiagnosed, can lead to compression of medulla causing severe and disabling neurological sequela [1].

We present the case of an asylum seeker living in a refugee camp, who had a history of recurrent axillary and perianal abscesses for years, before eventually presenting with cauda equina syndrome, severe TB spondylodiscitis and need for emergency surgery.

In light of the increasing migration from TB high-endemic countries to low-endemic countries, this case illustrates the paramount importance of minding TB as a differential diagnosis.

2. Case presentation

A 40-something-year-old asylum seeker originating from a TB high-endemic country, staying in a refugee camp in Denmark for 8 years with no recent travel history, was admitted to the emergency department complaining of 3 days of severe pain in the lower

abdomen and lower back with projection to both legs. Dysesthesia located to the lower limbs was noted and ability to walk was slightly impaired. After pain relief the patient appeared unaffected and was found neurologically intact. There was no history of coughing, fevers, night sweat, fatigue or weight loss. Laboratory tests revealed slightly elevated inflammatory markers. HIV test was negative. Chest radiography was normal. A computed tomography (CT) of the spine showed a local destruction in vertebrae L4 with surrounding soft tissue involvement suspicious for spondylodiscitis. While awaiting a magnetic resonance imaging (MRI), the patient developed perianal and saddle numbness, decreased anal tone, urinary retention and lost the ability to walk. Acute MRI showed spondylodiscitis with an abscess at L4, inflammation reaching into the psoas and back muscles and dura compressed and dislocated consistent with cauda equina syndrome. Emergency surgical decompression revealed an intraspinal abscess containing caseous material. Histopathology detected necrotizing granulomatous inflammation, no acid-fast bacilli (AFB) and no signs of malignancy. Standard microscopy and culture of pus were without microorganisms. Empirical standard anti-TB regimen (isoniazid, ethambutol, pyrazinamide and rifampicin) was initiated. Due to the possibility of multidrug resistant TB (MDR-TB), moxifloxacin was added. Microscopy for AFB and PCR for *Mycobacterium tuberculosis* (MTB) were negative. After 30 days fully susceptible MTB were grown from the bone biopsy. Thereafter, moxifloxacin was discontinued. The patient tolerated the treatment well, slowly

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improved and regained full bowel- and bladder control. After 4 months of treatment, the patient slowly regained the ability to walk without support, but the paraesthesia persisted. The patient was lost to follow-up after 6 month of treatment and has left the country.

The patient had a history of several hospitalizations with recurrent sterile abscesses prior to this emergency situation; A perianal abscess had been removed 7 years prior and a perianal and an axillary abscess had been surgical drained 2 years prior. At both occasions standard microscopy and culture of pus had been negative. No material had been sent for specific mycobacterial microscopy, PCR or culture. At the last contact a QuantiFERON-TB (QFT)) test was performed and found positive, a chest radiography was normal, however, no further diagnostic tests for TB were performed and no further follow up was planned.

3. Discussion

TB remains one of the most widespread infectious diseases in the world, mostly in low-income countries. The still increasing global migration from TB high-endemic countries is affecting the epidemiology of TB in low-endemic countries [2]. In Scandinavia approximately 70% of new TB cases occur in immigrants from TB high-endemic countries and the majority are infected in their country of origin [3]. Pulmonary TB is the most frequent manifestation, however extrapulmonary TB is common among people from TB high-endemic countries and a high level of medical awareness must be encouraged [4]. Spinal- and perianal TB are rare manifestations of TB and in line with our findings a diagnostic delay is frequently reported in patients with abscesses [5,6]. Due to our patient's history of recurrent "sterile" abscesses and the subsequent diagnosis of spinal TB we strongly suspect that the recurrent abscesses were due to *MTB*. Thus TB could potentially have been diagnosed earlier.

Since 2014, many Western European countries have experienced an increase in migrants and refugees, which poses challenges for the control of TB [2]. This case illustrates the challenges of TB diagnostic in refugees from high-endemic countries: In the low-endemic Western countries, TB is forgotten by many clinical specialists and is not considered as differential diagnosis [7]. Refugees are considered at increased risk of developing TB due to malnutrition, stress from long journeys, staying in areas of conflict and war, crowded refugee camps and the lack of access to healthcare and there can be several barriers to timely diagnosis of TB among refugees such as language, social barriers and a fear of stigmatisation [8]. Authorities, as well as medical personal, and personal at refugees' camps must be aware of these barriers in order to prevent delays in TB diagnostic and treatment. Furthermore healthcare systems and personnel should be aware of the health conditions and diseases that might follow these population groups and be adjusted accordingly.

In Denmark, unlike other Scandinavian and most Western European countries, mandatory screening for active TB among asylum seekers at arrival to the country has not yet been implemented. Optimally, the policy of TB screening upon arrival should be the

same for all European countries, but for now significant different screening practices exist among countries [9]. Systematic screening for TB among migrants/refugees from TB high-endemic countries may help to timely identify and treat people with active TB disease. This will benefit not only a single person (by treating the disease), but also the general population – by preventing further spread of the infection. Furthermore when we screen for TB among a highly vulnerable group as refugees, we need an adequate and reasonable follow-up plan, which has appeared to be a major challenge [9] especially regarding insufficient tracking [7]. However, while the debate on cost-effectiveness of different screening approaches and follow-ups are on-going [10], we need to underline for clinicians and other medical personnel the importance of considering TB as a differential diagnosis among migrants.

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Conflicts of interest

None.

Author contributions

The authors alone are responsible for the content and writing the paper.

References

- [1] E.M. Trecarichi, E. Di Meco, V. Mazzotta, M. Fantoni, Tuberculous spondylodiscitis: epidemiology, clinical features, treatment, and outcome, *Eur. Rev. Med. Pharmacol. Sci. Italy* 16 (Suppl 2) (2012 Apr) 58–72.
- [2] W. Europe, A. Tb, G.T.B. Programme, P.H. Sciences, State-of-the-art series on tuberculosis and migration 20 (10) (2016) 1280–1281.
- [3] Statens Serum Institut. EPINYT - Tuberkulose 2014. 2016.
- [4] I.S. Johansen, S.L. Nielsen, M. Hove, M. Kehrer, S. Shakar, A.V.T. Woyen, et al., Characteristics and clinical outcome of bone and joint tuberculosis from 1994 to 2011: a retrospective register-based study in Denmark, *Clin Infect Dis* 61 (4) (2015 Aug 15) 554–562, <http://dx.doi.org/10.1093/cid/civ326>.
- [5] P.C. Jutte, J.H. van Loenhout-Rooyackers, M.W. Borgdorff, J.R. van Horn, Increase of bone and joint tuberculosis in The Netherlands, *J. Bone Jt. Surg. Br. Engl.* 86 (6) (2004 Aug) 901–904.
- [6] S. Sultan, F. Azria, P. Bauer, M. Abdelnour, P. Atienza, Anoperineal tuberculosis: diagnostic and management considerations in seven cases, *Dis. Colon Rectum. U. S.* 45 (3) (2002 Mar) 407–410.
- [7] C. Papan, U. von Both, M. Kappler, B. Kammer, M. Griese, J. Huebner, Pott's Disease: a Major Issue for an Unaccompanied Refugee Minor. *Thorax* [Internet], 2016, pp. 1–2. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/27872320>.
- [8] M. Norredam, M. Olsbjerg, J.H. Petersen, I. Bygbjerg, A. Krasnik, Mortality from infectious diseases among refugees and immigrants compared to native Danes: a historical prospective cohort study, *Trop. Med. Int. Heal* 17 (2) (2012) 223–230.
- [9] M. Dara, I. Solovic, G. Sotgiu, L. D'Ambrosio, R. Centis, R. Tran, et al., Tuberculosis care among refugees arriving in Europe: a ERS/WHO Europe Region survey of current practices, *Eur. Respir. J. Engl.* 48 (3) (2016 Sep) 808–817.
- [10] M.J. van der Werf, K. Lönnroth, Pre-entry, post-entry, or no tuberculosis screening? *Lancet Infect. Dis.* 14 (12) (2014) 1171–1172.