Tuberculosis: When the key is the brain

Joana Cochicho, Emília Louro, Armando Carvalho

ABSTRACT

Abstract is not required for Clinical Images
Tuberculosis: When the key is the brain

Joana Cochicho, Emília Louro, Armando Carvalho

CASE REPORT

A 69-year-old male, with a history of obesity and bronchiectasis, presented to Internal Medicine consultation to study abdominal adenopathies documented incidentally on abdominal ultrasound three years before. He had already been submitted to endoscopic ultrasound guided biopsy, which was inconclusive. Blood count, serum angiotensin converting enzyme, interferon-gamma release assay (IGRA) and protein electrophoresis were normal. HIV serology was negative, diabetes was excluded and the patient had no history of exposure to tuberculosis. Chest X-ray was normal. By the time of the first appointment the patient was asymptomatic but six months later he started complaining of dizziness and loss of balance. Positron emission tomography showed hypermetabolic adenopathies in multiple body compartments, including the abdomen, and a focal area on the right hemi cerebellum (Figure 1). MRI scan of brain was performed and a lesion involving the right cerebellar hemisphere and vermis with perilesional edema and mass effect was found. The biopsy revealed granulomas with central areas of necrosis (Figure 2A–B). Even though mycobacteria could not be identified in this sample or in the sputum, neither by culture or nucleic acid amplification (NAA), it was decided to start the patient on multiple drug therapy for tuberculosis (isoniazid, rifampicin, pyrazinamide, and ethambutol), with improvement.
DISCUSSION

Despite the decreasing prevalence and mortality of tuberculosis, it is still a non-negligible problem across the globe and the second most deadly infectious agent in the world [1]. Extra pulmonary tuberculosis may have an indolent course and clinical manifestations vary considerably depending on the location, even when central nervous system is affected [2]. The gold standard for the diagnosis of Mycobacterium tuberculosis infection is culture identification. However, in extra-pulmonary tuberculosis its sensitivity ranges between 0–80%. Other methods, such as smear microscopy, NAA tests and IGRA also have high variability [3]. Although IGRA assays have shown good results in the diagnosis of active tuberculosis in Bacillus Calmette-Guérin vaccinated populations, factors associated with negative results (such as age > 50 and male gender) have been identified and should be taken into account [4].

CONCLUSION

This report illustrates that the diagnosis of tuberculosis remains a challenge, not only because of its silent course but also due to the suboptimal diagnostic tests available. Although there was no identification of Mycobacterium tuberculosis in our patient, the exclusion of a more probable diagnosis and the risk of not treating a tuberculoma, led to the decision to start tuberculosis treatment.

Keywords: Extra pulmonary tuberculosis, Tuberculoma, IGRA assay

How to cite this article

Cochicho J, Louro E, Carvalho A. Tuberculosis: When the key is the brain. Int J Case Rep Images 2016;7(1):72–74.
doi:10.5348/ijcri-201601-CL-10094

Acknowledgements

We would like to thank Dr. Olinda Rebelo (Neuropathology Laboratory, Neurology Department, Coimbra Hospital and University Centre) for providing histologic images.

Author Contributions

Joana Cochicho – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Emília Louro – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Armando Carvalho – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

Copyright

© 2016 Joana Cochicho et al. This article is distributed under the terms of Creative Commons Attribution License which permits unrestricted use, distribution and reproduction in any medium provided the original author(s) and original publisher are properly credited. Please see the copyright policy on the journal website for more information.

REFERENCES

1. WHO. Global tuberculosis report 2014 (WHO/HTM/TB/2014.08). World Health Organization, Geneva, Switzerland; 2014. [Available at: http://www.who.int/tb/publications/global_report/gtbr14_main_text.pdf]
2. Rock RB, Olin M, Baker CA, Molitor TW, Peterson PK. Central nervous system tuberculosis: pathogenesis and clinical aspects. Clin Microbiol Rev 2008 Apr;21(2):243–61.
3. Mehta PK, Raj A, Singh N, Khuller GK. Diagnosis of extrapulmonary tuberculosis by PCR. FEMS Immunol Med Microbiol 2012 Oct;66(1):20–36.
4. Yan L, Xiao H, Han M, Zhang Q. Diagnostic value of T-SPOT.TB interferon-? release assays for active tuberculosis. Exp Ther Med 2015 Jul;10(1):345–51.
Edorium Journals: An introduction

Edorium Journals Team

About Edorium Journals
Edorium Journals is a publisher of high-quality, open access, international scholarly journals covering subjects in basic sciences and clinical specialties and subspecialties.

Invitation for article submission
We sincerely invite you to submit your valuable research for publication to Edorium Journals.

But why should you publish with Edorium Journals?
In less than 10 words - we give you what no one does.

Vision of being the best
We have the vision of making our journals the best and the most authoritative journals in their respective specialties. We are working towards this goal every day of every week of every month of every year.

Exceptional services
We care for you, your work and your time. Our efficient, personalized and courteous services are a testimony to this.

Editorial Review
All manuscripts submitted to Edorium Journals undergo pre-processing review, first editorial review, peer review, second editorial review and finally third editorial review.

Peer Review
All manuscripts submitted to Edorium Journals undergo anonymous, double-blind, external peer review.

Early View version
Early View version of your manuscript will be published in the journal within 72 hours of final acceptance.

Manuscript status
From submission to publication of your article you will get regular updates (minimum six times) about status of your manuscripts directly in your email.

Our Commitment

Six weeks
You will get first decision on your manuscript within six weeks (42 days) of submission. If we fail to honor this by even one day, we will publish your manuscript free of charge.

Four weeks
After we receive page proofs, your manuscript will be published in the journal within four weeks (31 days). If we fail to honor this by even one day, we will publish your manuscript free of charge and refund you the full article publication charges you paid for your manuscript.

Most Favored Author program
Join this program and publish any number of articles free of charge for one to five years.

Favored Author program
One email is all it takes to become our favored author. You will not only get fee waivers but also get information and insights about scholarly publishing.

Institutional Membership program
Join our Institutional Memberships program and help scholars from your institute make their research accessible to all and save thousands of dollars in fees make their research accessible to all.

Our presence
We have some of the best designed publication formats. Our websites are very user friendly and enable you to do your work very easily with no hassle.

Something more...
We request you to have a look at our website to know more about us and our services.

We welcome you to interact with us, share with us, join us and of course publish with us.

CONNECT WITH US