Sarcouncil journal of Medical sciences

ISSN(Online): 2945-3526

Volume- 02| Issue- 10| 2023

Letter to the Editor **Received:** 11-09-2023 | **Accepted:** 28-09-2023 | **Published:** 17-10-2023

Pontine Abscess Requires Exclusion of Differentials, Drainage, Identification of the Causative Agent, and Appropriate Antimicrobial Therapy

Josef Finsterer

MD, PhD, Neurology & Neurophysiology Center, Vienna, Austria, ORCID: 0000-0003-2839-7305, Tel. 0043-1-5861075

Keywords: brain abscess, congenital heart disease, antibiotics, neurosurgery.

LETTER TO THE EDITOR

We read with interest the article by Torres-Valencia, *et al*., on a 23 year-old male with a right-sided, pontine abscess attributed to cyanotic congenital cardiopathy and no prior cardiac surgery [Torres-Valencia, J. *et al*., 2023]. The causative agent of the presumed cerebral abscess was not identified but the pontine lesion reduced in size over the course of six weeks of treatment with antibiotics and steroids [Torres-Valencia, J. *et al*., 2023]. The study is excellent but has limitations that should be discussed.

The main limitation of the study is that the diagnosis of brain abscess remains unconfirmed. The diagnosis brain abscess was not supported by magnetic resonance spectroscopy (MRS), magnetic resonance angiography (MRA), computed tomography angiography (CTA), digital subtraction angiography (DSA), cerebrospinal fluid (CSF) examinations, single-photon emission tomography (SPECT), stereotactic aspiration, biopsy, or resection. MRS can allow differentiation between abscess and tumour. Angiography can document the mass effect caused by the abscess. CSF examination, biopsy, or drainage can reveal the causative infectious agent or malignant tumour cells. Before a brain abscess can be diagnosed solely by MRI, all differential diagnoses must be thoroughly ruled out. The most important differential diagnoses of a brain abscess include bacterial meningitis, brain tumour, and demyelination.

A second limitation of the study is that the causative infectious agent could not be identified. In order to be able to heal a brain abscess using only conservative measures (antibiotics), it is imperative to identify the causative pathogen. Because brain abscess usually occurs when bacteria, fungi, or parasites enter the brain through the bloodstream or from an infected area in the head, such as ears, sinuses, teeth, traumatic lesion, or surgery, it is mandatory to obtain cultures from each affected tissue to identify the pathogen. Was there evidence of endocarditis, otitis, sinusitis, dental infection, or parasitic infestation?

A third limitation is that the patient has not undergone stereotactic aspiration or surgical drainage, which is the standard treatment for brain abscesses. We should know if neurosurgeons refused surgery because of location or questionable tolerability of anaesthesia and surgery due to the cardiac defect. Antimicrobial therapy may definitively be more effective once the causative agent has been identified, an antibiogram created, and if specific antimicrobial therapy initiated.

A fourth limitation is that the phrase "located in the right hemiprotuberance with extension to the encephalon" is unclear. With "protuberance" the authors apparently mean the pons, but what they mean with "extension to the encephalon" remains unclear. "Encephalon" means brain, so the statement does not make any sense. Do they mean the midbrain?

In summary, the interesting study has limitations that put the results and their interpretation into perspective. Addressing these issues would strengthen the conclusions and could improve the status of the study. For effective treatment of a brain abscess, it is imperative to exclude all differential causes, drain the abscess, identify the causative agent, and select the antibiotic according to the antibiogram.

ACKNOWLEDGEMENTS

Ethical compliance statement: The authors confirm that the approval of an institutional review board or patient consent was not required for this work. We confirm that we have read the Journal's position on issues involved in ethical publication and affirm that this work is consistent with those guidelines. This article is based on previously conducted studies and does not contain any new

***Corresponding Author:** Josef Finsterer

DOI- https://doi.org/10.5281/zenodo.10014792

studies with human participants or animals performed by any of the authors.

REFERENCES

1. Torres-Valencia, J., Zavaleta-Camacho, G. & Rodriguez-Urteaga, Z. "Brain abscess in a single ventricle patient." *Eur Heart J Case Rep*, 7.8 (2023): ytad383.

Source of support: Nil; **Conflict of interest:** Nil.

Cite this article as:
Finsterer, J. "Pontine Abscess Requires Exclusion of Differentials, Drainage, Identification of the Causative Agent, and Appropriate Antimicrobial Therapy." *Sarcouncil journal of Medical sciences* 2.10 (2023): pp 17-18.

Publisher: SARC Publisher