

## CASE IMAGE

# Clinical image report of a patient with cerebral schistosomiasis

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**Funding information**

Qatar National Library

**Abstract**

Neuro-schistosomiasis is one of the most severe manifestations of *Schistosoma* infection. We report an MRI image of a patient who presented with a headache and was found to have a space-occupying lesion on an MRI of the brain that was suggestive of neuro-schistosomiasis and was successfully treated without invasive testing.

**KEYWORDS**

infectious diseases, neuroradiology, schistosomiasis

## 1 | CASE PRESENTATION

A 31-year-old Filipino lady presented to the emergency department in Qatar with symptoms of a worsening headache associated with dizziness, nausea, and vomiting for a 3-day duration. Her headaches had started a few months before, and she had been diagnosed with migraine. However, her symptoms did not improve, and there was only a partial response to analgesics. There was no fever. She works as a housemaid. She moved to Qatar a year and a half ago. Upon further questioning, she reported raising pigs several years ago while in her home country. Her physical and ocular examinations were unremarkable.

The first head CT revealed a right occipitoparietal mass lesion. A contrast-enhanced MRI of the brain revealed a right medial parieto-occipital cortical irregular curvilinear/punctate enhancing lesion with significant adjacent surrounding subcortical/white matter edema, which is unusual for a neoplastic process and suggests parasitic infection (Figure 1). CSF studies were normal, along with stool and urine ova and parasites. However, serology for

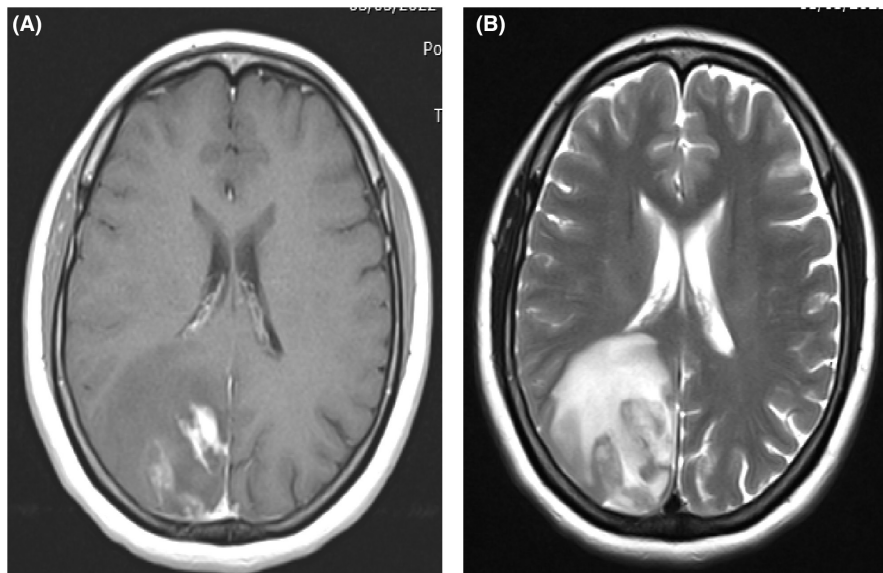
*Schistosoma mansoni* was positive. A CT scan of the chest and abdomen was normal as well.

She was empirically treated with praziquantel 50 mg/kg in divided doses and albendazole 400 mg BID along with dexamethasone 8 mg for 4 weeks, then tapered and discontinued. Albendazole was added empirically due to her previous remote contact with pigs. Her symptoms gradually improved after 6 weeks, and a repeat MRI revealed significant regression of the right parieto-occipital lesion (Figure 2). She was symptom-free at 3 months of follow-up and is planned for a follow-up MRI in the upcoming months.

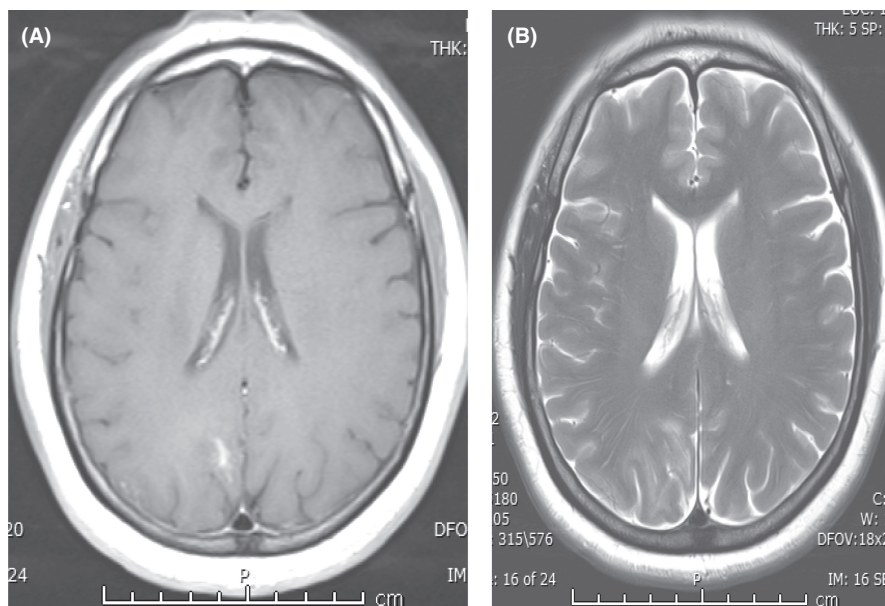
## 2 | DISCUSSION

Neuro-schistosomiasis is one of the most severe clinical manifestations of human schistosomiasis and needs a high index of suspicion for diagnosis.

The diagnostic evaluation must include an imaging study, preferably an MRI. Neuro-schistosomiasis imaging findings are typically one or more grouped hyperintense



**FIGURE 1** MRI brain with contrast. (A) Axial T1 postcontrast MRI showing right medial parieto-occipital essentially cortical irregular curvilinear/punctate enhancing lesion; (B) Axial T2 MRI showing bright signal significant edema around the lesion



**FIGURE 2** Axial MRI follow-up postcontrast (A) and T2 (B) showing significant resolution of the right medial parieto-occipital enhancing lesion and the surrounding edema

lesions with punctate or nodular enhancement and a heterogeneous internal structure surrounded by edema and mass effect.<sup>1–3</sup>

In a review of 33 patients with cerebral schistosomiasis, MRI scans showed a characteristic pattern of single or multiple lesions comprising multiple intensely enhancing nodules, sometimes with areas of linear enhancement.<sup>4</sup> Although a definitive diagnosis can only be made through brain biopsy, this characteristic pattern of clustered nodular enhancement may be useful for noninvasive diagnosis and to avoid unnecessary surgery, which was the case in our patient.<sup>4</sup>

#### **AUTHOR CONTRIBUTIONS**

**Khalid Yacout:** Writing – review and editing.

#### **ACKNOWLEDGMENT**

Open access article funded by Qatar National Library.

#### **CONFLICT OF INTEREST**

The authors declare that there is no conflict of interest in the publication of this article.

#### **DATA AVAILABILITY STATEMENT**

The data that support the findings of this study are available from the corresponding author upon reasonable request.

#### **CONSENT**

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

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**How to cite this article:** Al-Ameen O, Faisal M, Yacout K. Clinical image report of a patient with cerebral schistosomiasis. *Clin Case Rep*. 2023;11:e06811. doi:[10.1002/ccr3.6811](https://doi.org/10.1002/ccr3.6811)