

## Neurocysticercosis: Interesting points to note!

Dear editor,

A 40-year-old lady attended ER in a confused state with holo-cranial headache. She had no focal deficit. MRI of brain showed multiple ring-enhancing lesions with scolexes, significant edema and mass effect suggestive of neurocysticercosis [Figure 1].

Antiedema measures and anti-epileptic were started but anti-helminthic was not introduced in view of high lesion load. Gradually, she recovered with 60 mg of prednisolone daily. Serial MRI of brain also revealed steady improvement. Finally, eight months later only a single lesion with scolex was noted at the left medial frontal lobe, so steroid was tapered off [Figure 2].

Within a month headache re-appeared and repeat imaging revealed mild increment of edema. Oral steroid was reintroduced in same dose and she again responded well. It was finally stopped two months later as she was having considerable side effects.

A month later, repeat MRI of brain surprised us with further increased edema at the same left frontal region along with a new left lateral ventricular cyst [Figure 3]. A close watch was kept for

any deterioration, but steroid was not re-introduced as she was asymptomatic at this juncture.

She came back few days later with pedal edema and exertional dyspnea. Investigations revealed deep venous thrombosis involving right internal iliac vein, inferior vena cava with bilateral pulmonary artery thrombosis. We ruled out local tissue infiltration of cysticercoid.

She responded well to medical treatment and fortunately was back to baseline within two months.

The possible reason for the vascular event could be a prolonged course of steroid for almost a year. It might have precipitated a prothrombotic state (her prothrombotic panel of tests and vasculitis markers were non-contributory). Long duration of oral steroid is known to activate coagulation system directly, inhibit fibrinolysis by enhancing activity of plasminogen activator inhibitor-1 and von Willebrand factor.<sup>[1]</sup>

It is difficult to decide how long steroid should be continued when the disease gains chronicity and patient becomes steroid dependent. We failed to withdraw steroid on occasions but probably should have replaced steroid with some other anti-inflammatory agent. In a recent case series, methotrexate and adalimumab have been successfully used in humans as steroid sparing anti-inflammatory agents in management of neurocysticercosis.<sup>[2]</sup>

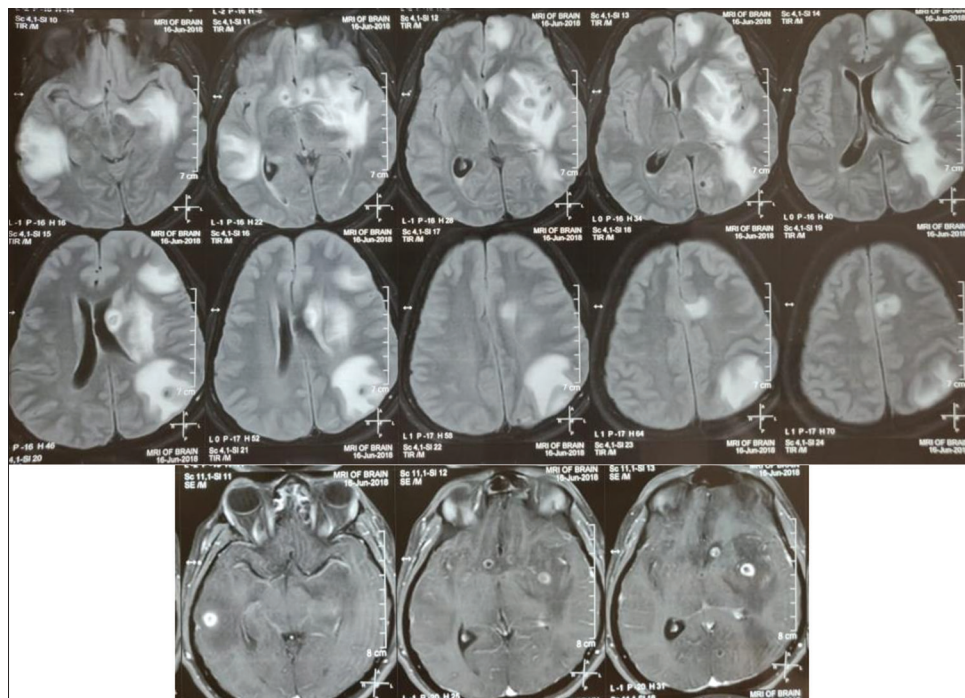
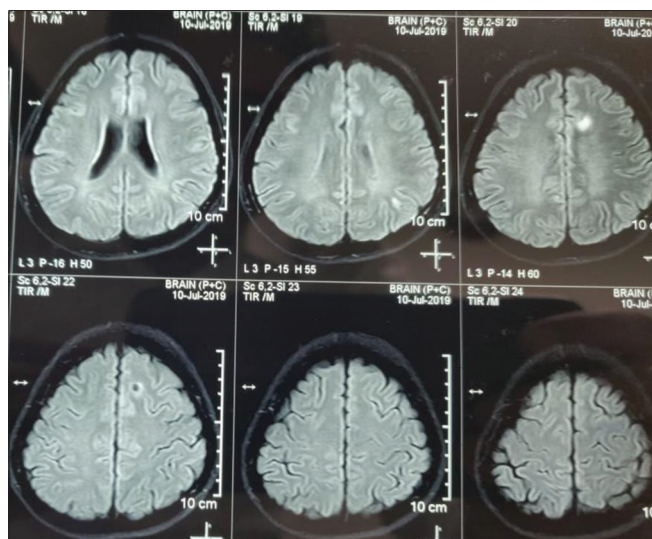


Figure 1: MRI of brain showing multiple ring-enhancing lesions with scolexes, significant edema and mass effect suggestive of neurocysticercosis



**Figure 2:** Eight months later only a single lesion with scolex was noted at the left medial frontal lobe

Besides the known side effects of long duration of steroid therapy, corticosteroids can be associated with rebound inflammation in the setting of corticosteroid taper.<sup>[3]</sup>

So, even a savior-like steroid, may precipitate life threatening situation if we do not use it appropriately.

It is also worthy of mentioning that our patient had multiple neurocysticercosis with-out any history of consuming pork. It was later discovered that the cook at her home had subclinical infection and tested positive for cysticercosis serology. He was possibly the source of infection in the house. We have large number of tape worm carriers in our community who pose significant public health-risk demanding careful attention of health workers.<sup>[4]</sup>

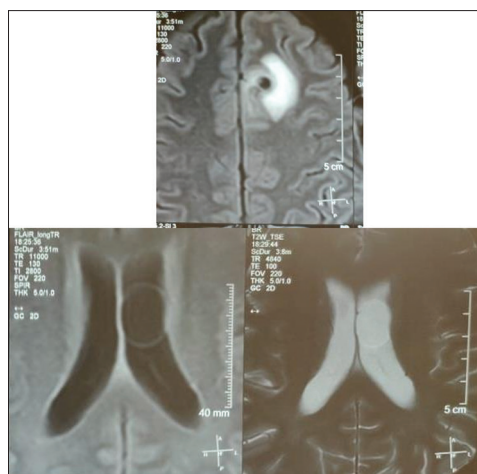
So, detection of the disease source at early stage is of extreme importance as it may prevent spread of the disease in the community and people may avoid unnecessary sufferings.

### Acknowledgements

We acknowledge the faith patient and her family kept on us during difficult times.

### Financial support and sponsorship

Nil.



**Figure 3:** Repeat MRI of brain showing increment of edema at the same left frontal region along with a new left lateral ventricular cyst

### Conflicts of interest

There are no conflicts of interest.

**Debabrata Chakraborty<sup>1</sup>,  
Aditya Choudhary<sup>1</sup>, Abhijit Das<sup>2</sup>,  
Sumitava Mukherjee<sup>3</sup>**

<sup>1</sup>Department of Neurology, Apollo Gleneagles Hospital, Kolkata, West Bengal, India, <sup>2</sup>Department of Neurology, The Walton Centre NHS Foundation Trust, Liverpool, L9 7LJ, UK, <sup>3</sup>Department of Critical Care, AMRI Hospital, Salt Lake, Kolkata, West Bengal, India

**Address for correspondence:** Dr. Debabrata Chakraborty, 64/4A/9, Beliaghata Main Road, Kolkata - 700010, West Bengal, India.

E-mail: drdchakraborty1980@gmail.com

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**Received:** 09-08-2020

**Revised:** 06-10-2020

**Accepted:** 20-10-2020

**Published:** 30-11-2020

Access this article online	
<b>Quick Response Code:</b> 	<b>Website:</b> <a href="http://www.jfmipc.com">www.jfmipc.com</a>
	<b>DOI:</b> 10.4103/jfmipc.jfmipc_1619_20

**How to cite this article:** Chakraborty D, Choudhary A, Das A, Mukherjee S. Neurocysticercosis: Interesting points to note! *J Family Med Prim Care* 2020;9:5811-3.

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