

## Commentary

In this issue, Joshi and co-authors<sup>[1]</sup> describe a case of recurrent hydrocephalus due to recurrent intraventricular neurocysticercosis (NCC).<sup>[1]</sup> This case report highlights the protean manifestations and continuing public health burden of NCC: the most common helminthic infection of the nervous system.<sup>[2]</sup> The disease occurs when humans become intermediate hosts of *Taenia solium* by ingesting its eggs from contaminated food or, most often, directly from a taenia carrier by the fecal-to-oral route. Cysticerci may be located in brain parenchyma, subarachnoid space, ventricular system, or spinal cord, causing pathological changes that are responsible for the protean clinical presentation of NCC; largely depending on the load, type, size, location, and the stage of the development of the cysticerci, as well as on the host's immune response against the parasite. There is neither a

pathognomonic feature nor a typical NCC syndrome.<sup>[3]</sup> Extraparenchymal disease varies in its symptoms and prognosis according to the location of the parasites. Among the extraparenchymal NCC, the intraventricular form of NCC (IVNCC) is seen in 15-54% cases and needs special mention as it has a rapidly progressive course and has a worse outcome compared to parenchymal disease.<sup>[4]</sup> The commonest site of occurrence is in fourth ventricle. Intracranial hypertension is a common manifestation and may be the result of a mass effect, distortion of the normal anatomy of CSF pathways, direct obstruction of the ventricular system by a cyst, or an inflammatory reaction in the meninges leading to arachnoiditis. Sometimes, an intermittent or positional CSF obstruction with increasing intracranial pressure produces relapsing/remitting symptoms (Bruns Syndrome).<sup>[5]</sup> Neuroimaging, mainly

Abhijit Das

Kessler Foundation Research Center, West Orange, NJ, USA

**Address for correspondence:**

Dr. Abhijit Das,  
Kessler Foundation Research Center,  
300 Executive Dr, Suite 70, West Orange, NJ, USA.  
E-mail: abhijit.neuro@gmail.com

MRI, is mainstay of diagnosis of IVNCC. The treatment depends on clinical presentation, location within the ventricular system and the evolutionary stage of parasite. The decision to operate in a viable intraventricular cyst depends on the presence of: (i) mass effect, (ii) CSF obstruction, and (iii) fourth ventricular cysts. Recently, endoscopic approaches have been the favorable treatment option for IVNCC with hydrocephalus as the clinical results are far better than those for open approaches used previously. As this case report highlights, they are often lifesaving. However, the efficacy of the antihelminthic treatment in IVNCC is still controversial and may require further collaborative clinical trials.

The ongoing problem of NCC merits special mention for developing countries like India where conditions favoring the transmission of *T. solium* are found: Deficient disposal of human feces, low levels of education, slaughtering of pigs without veterinary control, and the presence of free roaming pigs around households.<sup>[6]</sup> Importantly, this parasitic disease is potentially eradicable but to be effective eradication programs must be directed to all the targets for control: particularly human carriers of the adult tapeworm, infected pigs, and eggs in the environment. Overall, given the scale of potential public health and economic threat, NCC mandates a well-coordinated eradication program and increase in public awareness about this condition.

**References**

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