Commentary

The neurocysticercosis is one of diseases affecting the nervous system with greater diversity and clinical complexity. The symptoms of this pathology are polymorphic and usually turn into a chronic disease pathology in their symptoms, and an evolution usually as a chronic disease. The case presented by Joshi *et al.* is a sample about it.^[1]

In the case of hydrocephalus secondary to the neurocysticercosis, basically concur two pathological phenomena. (a) The presence of cysticerci in different stages that determine mass effect and cause obstruction of CSF (cerebrospinal fluid) dynamics. (b) The inflammatory response, which affects changes in the wall ependymal, proliferation (ependymitis), and failures in the balance between production and absorption of CSF.^[2,3]

Any of these two events may cause hydrocephalus, and they may occur together, particularly whenever pharmacotherapy with rupture is performed and emptying the contents of the cysts into the ventricular cavity, or in the subarachnoid space (arachnoiditis). This can also happen during the rupture of cysts in the surgical process. Further, it is important to consider the interaction host-immune response to determine the risk-benefit balance of pharmacological treatment alone, particularly in patients with hydrocephalus, cysticerci in the subarachnoid space, or symptomatic mass effect.^[4-7]

It is important to consider that the endoscopic approach for cysticerci in the ventricular space is generally Accessible and currently documented as a diagnostic

criterion through the “Full Moon” endoscopic sign.^[8] However we need to think that cysticercosis is a general parasitic disease that affects potentially several organs, and has a life cycle in which the gastrointestinal role is relevant. Consequently it is important to consider the antihelminthic drug treatment as an adjuvant and complementary element in these cases, and after surgical resection in some other cases.

As a result, as a not surprising result, the neurocysticercosis can emulate any neurological syndrome, and that their evolutionary behavior and their consequential events, does not necessarily imply a new infestation, but a variation of the chronicity and progression of the disease.

It is relevant as a public health problem, redirect preventive strategies, including considerations of human migration, which has turned it into a global disease, not just in underdeveloped countries.

It will remain a therapeutic challenge, since so far advances in the pharmacological treatment and its accessibility have not been sufficient to establish definitive control. We have recently reviewed the relevance of antihelminthic treatment and its specific role, particularly in the case of parenchymal cysticercosis which has demonstrate a favorable risk-benefit balance to the antihelminthic treatment These treatment is useful as a primary therapy and non only as an option after of pharmacological treatment failure. However, it is different in the case of cysticerci racemosus, giants, cysticerci in the subarachnoid space, ventricular space, and with significant edema or mass effect related

to parenchymatous level. Antihelminthic treatment should be handled with caution and be considered as complementary in these cases after the surgical treatment, in order to avoid a severe inflammatory reaction.^[9,10]

Pharmacological treatment alone is not harmless and requires an analysis about its relevance, dose, time management, and concurrency with surgical treatment, where has been considered this not necessarily must be an alternate present after the failure of pharmacological treatment. That may eventually be the first therapeutic alternative, through current minimally invasive techniques today, whereas through current minimally invasive techniques today.

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References

1. Joshi KC, Singh D, Singh H, Sakhuja P. Repeated hydrocephalus in recurrent intraventricular neurocysticercosis: An uncommon presentation. *J Neurosci Rural Pract* 2013;4:87-9
2. Del Brutto OH. Neurocysticercosis. ""Continuum (Minneap Minn). 2012 Dec;18(6 Infectious Disease):1392-416. *Sci World J* 2012;2012:159821.
3. Ramos-Zúñiga R, Garzón-Mudvi T. The management of Neurocysticercosis. In: Quiñones-Hinojosa A editor. *Schmidek & Sweet's Operative Neurosurgical Techniques*. Chapter 147; 1667-1678. 6th ed. Philadelphia: Saunders Elsevier; 2012.
4. Diehl Rodríguez R, da Silva Crestani DN, Dworzecki Soares JO, Franceshini PR, Petersen Alves R, Zimerman R. Bruns' syndrome and racemose neurocysticercosis: A case report. *Rev Soc Bras Med Trop* 2012;45:269-71.
5. Agapejev S. Neurocysticercosis: The enigmatic disease. *Cent Nerv Syst Agents Med Chem* 2011;11:261-84.
6. Matushita H, Pinto FC, Cardeal DD, Teixeira MJ. Hydrocephalus in neurocysticercosis. *Childs Nerv Syst* 2011;27:1709-21.
7. Torres-Corzo JG, Tapia-Pérez JH, Sánchez-Aguilar M, Della Vecchia RR, Chalita Williams JC, Cerda-Gutiérrez R. Comparison of cerebrospinal fluid obtained by ventricular endoscopy and by lumbar puncture in patients with hydrocephalus secondary to neurocysticercosis. *Surg Neurol* 2009;71:376-9.
8. Ramos-Zúñiga R, de La Cruz-Ramírez J, Casillas-Espinosa PM, Sánchez-Prieto JA, López-Hernández MD. "Full moon" endoscopic sign in intraventricular neurocysticercosis. *Minim Invasive Neurosurg* 2011;54:90-4.
9. Ramos-Zúñiga R, Pérez-Gómez HR, Jáuregui-Huerta F, López-Hernández MD, Valera-Lizárraga JE, Paz-Vélez G, *et al.* Incidental Consequences of Antihelminthic Treatment in the Central Nervous System. *World Neurosurg* 2012;133-7.
10. Ramos-Zúñiga R. Impact of Antihelminthic Treatment in Neurosurgical Patients with Symptomatic Neurocysticercosis. *World Neurosurg* 2011. 11-020

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