

## CASE OF CEREBRAL ECHINOCOCCOSIS

**Anvarov Jakhongir Abralovich**

Senior lecturer of the Department of Infectious and Children's Infectious Diseases, Phd

**Sherbekova Diyora Ulug'bek qizi**

5th Year Student of Tashkent Medical Academy 1st Treatment Faculty

**Norqizilova Gulira'no Olim qizi**

5th Year Student of Tashkent Medical Academy 1st Treatment Faculty

**Abstract:** Cerebral echinococcosis presents a challenging clinical entity characterized by the formation of cystic lesions within the brain.

The disease's clinical manifestations vary widely, ranging from asymptomatic cases to severe neurological deficits and life-threatening complications. Diagnosis typically involves a combination of clinical evaluation, imaging studies, and serological tests.

Treatment strategies often include a multidisciplinary approach, incorporating medical therapy with anthelmintic drugs and surgical intervention when necessary. Despite advances in diagnosis and treatment, the management of cerebral echinococcosis remains complex, requiring ongoing research efforts to improve our understanding of the disease's epidemiology, pathogenesis

**Key words:** Echinococcus tapeworms , MRI, Albendazole, interacerbral cystic formation, lung forms.

**Material and Methods:** Patient with echinococcosis and many changes after treatment of albendazole. Checking this patient with MRI and diagnosis cerebral echinococcosis.

**Introduction:** Echinococcosis is characterized by the formation of fluid-filled cysts in various organs. These cysts typically have a thick, laminated outer layer and an inner germinal layer. They often appear as well-defined, round or oval masses on imaging studies. Echinococcus tapeworms exhibit sexual dimorphism, meaning they have distinct male and female forms. This parasitic infection primarily affects humans through the ingestion of Echinococcus eggs, typically found in contaminated food or water, or through close contact with infected animals, particularly dogs.

### Case Report:

The patient is a man, born in 1988, lives in Okhangaran district, Tashkent region. At the moment, the patient has the following complaints: general weakness, weakness of the right leg and arm, rare cramps of the right hand (especially after taking alcohol and during hyperthermia). From anamnesis: in June 2012, he underwent surgery for echinococcus of the lung. After the operation, the patient felt healthy until October 2018. From this period, paresthesia and movement disorders in the right leg began, then in February 2019 - similar changes in the right arm. The patient was treated by a neurologist. On 01.04.2019, after an MRI of the brain, cystic formations were revealed in the structure of the left parietal region with a diameter of 10x12 mm and 40x45 mm. After hospitalization in the neurosurgery center, the patient underwent surgery, as a result of which 3 cysts were removed, one of which broke through during the removal. After the operation, he was prescribed albendazole for only 1 month. On 05.10.2020, two cysts were found in MRI (the size is unknown, the conclusion of the MRI is lost). The patient turned to an infectious disease specialist, he was prescribed albendazole for 4 months. On 04.02.2021, MRI in the left parietal lobe of the brain revealed cystic formation of an uncertain form (parasitic origin?) Dimensions of 11x15x21 mm against the background of the area of encephalomalation and gliosis

changes of dimensions of 23x26x12 mm. After that, the patient took albendazole for 1 year. On 23.07.2021, MRI revealed a subcortical area of cystic degeneration in the left parietal region with dimensions of 45x20x28 mm. On 11.02.2022, MRI in the left frontoparietal region revealed cystic-scar changes in the size of 43x28x22 mm. In 2022, the patient did not take albendazole regularly. On July 13, 2022, MRI in the left parietal region revealed intracerebral cystic formations of 15x18x13 mm, 11x12x13 mm and 7x9 mm. On 09.11.2022, MRI in the fronto-parietal region of the left hemisphere of the brain revealed inside and extracerebral cystic areas with a total size of 2.4x1.8x2.4 cm, with areas of encephalomalation and gliosis measuring 1.9x0.4 cm. On 06.06.2023, MRI in the left parietal region revealed intracerebral cystic formations of 15x18x13 mm, 11x12x15 mm and 8x10 mm. Since August, the patient has been taking albendazole 400 mg once a day. On January 08, 2024, an MRI in the left parietal region revealed intracerebral cystic formations measuring 16x21x13 mm (ventrally located) and 12x16x19 mm (dorsally located) with uneven walls and clear uneven contours. The neurosurgeon said that the cysts are located close to the sinuses, one is stuck to the sinus, and it is dangerous to remove. The patient is also afraid to have another operation. Albendazole 400 mg is taken twice daily after meals (with a fatty meal, such as nuts, yogurt, or other fatty foods). Taken for 1 month. On the 7th day of treatment, complete blood count and blood biochemistry analysis (ALT, AST, Bilirubin and its fractions, total protein) to be performed. Albendazole 400 mg is taken three times daily after meals (with a fatty meal) for 1 month. On the 10th day of treatment, complete blood count and blood biochemistry analysis to be performed. Albendazole 400 mg is taken twice daily after meals (with a fatty meal) for 1 month. Albendazole 400 mg is taken three times daily after meals (with a fatty meal) for 1 month. On the 10th day of treatment, complete blood count and blood biochemistry analysis to be performed. Albendazole 400 mg is taken twice daily after meals (with a fatty meal) for 6 months. In July 2024, a head MRI examination and blood test for Echinococcus IgG are scheduled.

#### Conclusion:

The growth of cystic lesions within the brain is a problematic clinical phenomenon associated with cerebral echinococcosis.

Clinical signs and symptoms of the illness can vary greatly, from instances with no symptoms to those with significant neurological impairments and potentially fatal consequences. A combination of imaging techniques, serological testing, and clinical evaluation is usually used to make the diagnosis. A multidisciplinary approach is frequently used in treatment plans, combining medication therapy with anthelmintic medications and, if required, surgical intervention. The management of cerebral echinococcosis remains challenging despite advancements in diagnosis and treatment, necessitating continued research to deepen our understanding of the disease's epidemiology and etiology.

#### Literature:

1. U.S. Department of Health & Human Services. CDC - Echinococcosis - Biology. Published 2019. Accessed October 27, 2020. <https://www.cdc.gov/parasites/echinococcosis/biology.html>.
2. C. Armiñanzas, M. Gutiérrez, C. María, C. Fariñas.
3. Hidatidosis: aspectos epidemiológicos, clínicos, diagnósticos y terapéuticos.
4. Rev Esp Quimioter, 28 (2015), pp. 116-124
5. E.O. Tapia, T.A. Vidal, P.L. Antonio.
6. 4. Hidatidosis cerebral: aspectos clínicos e imagenológicos. Reporte de 4 casos.
7. Rev Med Chile, 140 (2012), pp. 358-363
8. <http://dx.doi.org/10.4067/S0034-98872012000300012> | Medline
9. F. Tamarozzi, O. Akhan, C.M. Cretu, K. Vutova, D. Akinci, R. Chipeva, et al.
10. Prevalence of abdominal cystic echinococcosis in rural Bulgaria, Romania, and Turkey: a cross-sectional, ultrasound-based, population study from the HERACLES project.
11. Lancet, 18 (2018), pp. 769-778
12. [http://dx.doi.org/10.1016/S1473-3099\(18\)30221-4](http://dx.doi.org/10.1016/S1473-3099(18)30221-4)

13. European Food Safety Authority & European Center for Disease Prevention and Control.
14. The European Union One Health 2019 Zoonoses Report.
15. EFSA J, 19 (2021), pp. 6406
16. <https://doi.org/10.2903/j.efsa.2021.6406>
17. K. Abbassioun, A. Amirjamshidi.
18. 7. Diagnosis and management of hydatid cyst of the central nervous system: Part 1: general considerations and hydatid disease of the brain. *Neurosurg Q*, 11 (2001), pp. 1-9
19. <http://dx.doi.org/10.1097/00013414-200103000-00001>
20. Álvarez-Martínez MJ, Belhassen-García M., Flores-Chavez M.D., Pérez de Ayala ASE. 69. Diagnóstico de parasitosis importadas en España. *Procedimientos en Microbiol Clínica Soc Española Enfermedades Infecc y Microbiol Clínica (SEIMC)*. Published online 2020. Accessed October 27, 2020. <https://seimc.org/contenidos/documentoscientificos/procedimientosmicrobiologia/seimc-procedimiento69.pdf>.
21. P.R. Murray, K.S. Rosenthal, M.A. Pfaller. *Microbiología Médica*.
22. 8ª edición, Elsevier España (Barcelona), (2017),
23. R. Manzano-Román, C. Sánchez-Ovejero, A. Hernández-González, A. Casulli, M. Siles-Lucas.
24. Serological diagnosis and follow-up of human cystic echinococcosis: a new hope for the future?.
25. *Biomed Res Int*, 2015 (2015), <http://dx.doi.org/10.1155/2015/428205>
26. 10.D. Carmena, A. Benito, E. Eraso.
27. Avances recientes en el inmunodiagnóstico de la hidatidosis humana. *Enferm Infecc Microbiol Clin*, 25 (2007), pp. 263-269
28. <http://dx.doi.org/10.1157/13100468> | Medline
29. 11.E. Miranda, E. Sánchez, C. Náquira, J. Somocursio, E. Ayala, G. Miranda. Evaluación de una prueba de aglutinación de látex para el diagnóstico serológico de la equinococosis quística.
30. *Rev Perú Med Exp Salud Publica*, 26 (2009), pp. 198-202