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PUBLIC POLICY FOR CONTROLLING THE TAENIASIS/ CYSTICERCOSIS COMPLEX IN COLOMBIA

Editorial

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The teniasis/cysticercosis (T/C) complex is a parasitic disease caused by the cestodes *Taenia solium* and *Taenia saginata*, and is considered as a neglected zoonosis by the World Health Organization (WHO) and the Colombian Ministry of Health and Social Protection. (1-3) This parasitic infection is a public health and environmental problem in Latin-American, African and Asian countries, and is currently being introduced to developed countries through immigrant communities. Estimates are that 2 500 000 people are infected with this complex and that twice as many individuals develop the parasite at the tissue level. This disease is associated to 50 000 deaths every year, but these figures need to be updated. (4-8)

The intermediate hosts of the T/C complex are cattle in the case of *T. saginata*, and pigs, dogs and humans in the case of *T. solium*. However, the adult parasite develops only in humans, in whom the tapeworm is found in the small intestine, allowing the viability of its eradication. (4,9) A meta-analysis by Ndimubanzi *et al.* (10) found that neurocysticercosis, a variant that affects the central nervous system, is associated with 29% of epilepsy cases in developing countries. (10)

This issue of Case Reports presents a clinical case of *T. saginata* tapeworm, which is of great importance since its presence continues to be demonstrated in different regions of Colombia, even though few patients attend medical consultation for this cause. This clinical presentation has few signs and symptoms, causes economic losses from infection in cattle, and is most commonly found in Europe. (9)

In Colombia, epidemiological studies have addressed the issue of *T. solium*, determining anti-synthetic antibodies and reporting prevalences in the general population ranging from 0.53% to 40% (11); in a neurological symptomatic population, the highest values

have been found in Cauca (54%) (12). Moreover, neurocysticercosis cases are still being reported. (13,14)

The WHO has set the goal of ensuring a healthy life for people of all ages in developing countries by 2030, but warns that the achievement of this goal is threatened by the T/C complex, as it is transmitted, among others, through water. For this reason, it states that emphasis should be placed on aspects such as ensuring universal health coverage, with the corresponding inclusion of access to quality primary healthcare services and medication in communities living in endemic areas. Similarly, there is a need to support research activities aimed at developing vaccines, increasing funding for the health sector, strengthening early warning capacity and reducing risk factors. (3)

National and international experiences aimed at controlling and/or eliminating the T/C complex have carried out interventions using vaccines against the parasite and massive antiparasitic treatments for humans and swine, providing training on the parasitic infection, and improving pig breeding and surveillance of the parasitosis in pigs at slaughterhouses. However, future programs must have a baseline, link different sectors for interdisciplinary and institutional work and encourage the active participation of the community that is suffering the consequences of this disease (15,16).

In 2018, the Ministry of Health and Social Protection of Colombia presented the National Intersectoral Plan for the Elimination of the Teniasis/Cysticercosis Complex in Colombia 2018-2027 (*Plan Nacional Intersectorial para la eliminación del complejo Teniasis/Cisticercosis en Colombia 2018-2027*). This is a public policy that is expected to be successful and achieve the eradication of this parasitosis through active community liaison and intersectoral and interdisciplinary work with research

groups, entities related to the swine sector and municipal and departmental institutions. (3)

REFERENCES

1. **Welburn SC, Beange I, Ducrotoy Mj, Okello AL.** The neglected zoonoses—the case for integrated control and advocacy. *Clin Microbiol Infect.* 2015;21(5):433-43. <http://doi.org/bmd3>.
2. **Hotez PJ, Bottazzi ME, Franco-Paredes C, Ault SK, Periago MR.** The Neglected Tropical Diseases of Latin America and the Caribbean: A Review of Disease Burden and Distribution and a Roadmap for Control and Elimination. *PLoS Negl Trop Dis.* 2008;2(9):e300. <http://doi.org/dwp7c4>.
3. Colombia. Ministerio de Salud y Protección Social. Plan Nacional Intersectorial para la eliminación del complejo Teniasis/Cisticercosis en Colombia 2018-2027. Documento preliminar. Bogotá D.C.: MinSalud; 2018.
4. **White AC Jr, Garcia HH.** Updates on the management of neurocysticercosis. *Curr Opin Infect Dis.* 2018;31(5):377-82. <http://doi.org/dgj2>.
5. World Health Organization (WHO). Preventable epilepsy: Taenia solium infection burdens economies, societies and individuals: a rationale for investment and action. Geneva: WHO; 2016 [cited 2019 Dec 5]. Available from: <https://bit.ly/2LpgMXQ>.
6. World Health Organization (WHO). Taenia solium Taeniasis/cysticercosis diagnostic tools. Report of a stakeholder meeting, Geneva, 17-18 December 2015. Geneva: WHO; 2015 [cited 2019 Dec 5]. Available from: <https://bit.ly/2YjY89b>.
7. **Schantz PM, Cruz M, Sarti E, Pawlowski Z.** Potential eradicability of taeniasis and cysticercosis. *Bull Pan Am Health Organ.* 1993;27(4):397-403.
8. **Román G, Sotelo J, Del Brutto O, Flisser A, Dumas M, Wadia N, et al.** A proposal to declare neurocysticercosis an international reportable diseases. *Bull World Health Organ.* 2000;78(3):399-406.
9. **Dorny P, Praet N.** Taenia saginata in Europe. *Vet Parasitol.* 2007;149(1-2):22-4. <http://doi.org/bnvnqn>.
10. **Ndimubanzi PC, Carabin H, Budke CM, Nguyen H, Qian YJ, Rainwater E, et al.** A systematic review of the frequency of neurocysticercosis with a focus on people with epilepsy. *PLoS Negl Trop Dis.* 2010;4(11):e870. <http://doi.org/bwtqb6>.
11. **Flórez-Sánchez AC, Pastrán SM, Vargas NS, Beltrán M, Enriquez Y, Peña AP, et al.** Cisticercosis en Colombia. Estudio de seroprevalencia 2008-2010. *Acta Neurol Colomb.* 2013;29(2):73-86.
12. **Vásquez-Arteaga LR, Zamora-Bastidas TO, Vivas-Velásco VH, Giraldo-Forero JC, Casa Zúñiga JC.** Epidemiología de la cisticercosis humana en pacientes de consulta neurológica en Popayán, Cauca, Colombia. *Revista Medicina.* 2016;38(4):305-15.
13. **Medina-Ortega A, López-Valencia D, Vásquez-Arteaga LR.** Recurrent neurocysticercosis of the frontal lobe. *Case report. Case reports.* 2017;4(1):46-53:2018. <http://doi.org/dgj3>.
14. **López-Valencia D, Medina-Ortega AP, Saavedra-Torres J, Zúñiga-Cerón L, Zamora-Bastidas TO.** Neurocysticercosis, unusual manifestations. *Rev. Fac. Med.* 2016;64(3):561-4. <http://doi.org/cj2d>.
15. **Vásquez LR, Giraldo JC, Agudelo PM, Campo VH, Vergara D.** Experiencia para el control de cisticercosis en el departamento del Cauca. *Biomédica.* 2011;31(Suppl 3):32-32.
16. CystiTeam Group for Epidemiology and Modelling of Taenia solium Taeniasis/Cysticercosis. The World Health Organization 2030 goals for Taenia solium: Insights and perspectives from transmission dynamics modelling. *Gates Open Res.* 2019;3:1546. <http://doi.org/dgj4>.