

# Foodborne parasites in Colombia

## Parásitos transmitidos por alimentos en Colombia

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This number of **Infectio** includes the first report of *Anisakis* in edible fish in the Colombian pacific coast<sup>1</sup>. Anisakidiasis has become an increasing threat given the extensive consumption of Sushi and raw fish worldwide as consequence of a global fad food<sup>2</sup>. This report of *Anisakis* in 42% of the most popular fish specimens consumed in the country, call the attention also about the new health risks present in food, particularly parasites. The Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO) established a ranking of the top foodborne parasites for control priority in 2014<sup>3</sup>. This was the first expert meeting that established which were the most important parasites to be included in risk analysis of food. The consequences are important, not only for the health sector, but also for the agriculture export market of developing countries. As free trade agreements have become a rule for the commercial exchange between countries, the only way to limit the entry of food products in the developed world are the sanitary controls. CODEX Alimentarius Commission (CAC) is the international organism that define the sanitary code and rules for quality and risk analysis in food. The economic importance of the rules defined by this commission is evident and discussions about inclusion of new controls for new risks are intense and a particularly tough task inside this commission.

Research in foodborne parasites is a new priority for many countries, there is an urgent need for data about prevalence and efficacious control measures in food production and processing. Colombia, given its location in tropical zones, faces an immense challenge. Particularly, from the top ten parasites, a significant risk exists in Colombia for foodborne infection by *Tenia solium* (that produces cysticercosis), *Toxoplasma gondii* (producing toxoplasmosis) and *Trypanosoma cruzi* (producing Chagas disease). Cysticercosis incidence in the country is estimated to be 7.7 cases/100,000 inhabitants<sup>4</sup>. In the case of toxoplasmosis, many studies in meat from different regions, point out that the percentage of attributable

risk of meat-borne toxoplasmosis is 26%<sup>5</sup> and that risk can come from different meat types: beef, chicken or pork<sup>6-8</sup>. Finally, several mortal outbreaks of acute Chagas disease have been reported in Colombia due to transmission of *T. cruzi* through an oral route and have been attributed to contaminated fruit, palm wine or sugar cane juice<sup>9</sup>. This panorama of foodborne parasites should increase the interest of research groups and sanitary authorities to study and to work together to obtain safe food for all.

### Referencias

1. J.A. Castellanos, et al. First reporting of *Anisakis* sp. in the Armed Snook fish (*Centropomus armatus*) caught and commercialized in Buenaventura, Colombia. *Infectio* 2018; 22(3): 136-140
2. Nieuwenhuizen NE, Lopata AL. *Anisakis* - A food-borne parasite that triggers allergic host defences. *Int. J. Parasitol.* 2013; 43:1047-1057.
3. FAO/WHO. Multicriteria-Based Ranking for Risk Management of Food-Born Parasites. Rome: FAO/WHO, 2014. Available at: <http://www.fao.org/publications/card/en/c/ee07c6ae-b86c-4d5f-915c-94c93ded7d9e/>. Accessed 3 October 2015.
4. Rodríguez-Morales AJ, Yepes-Echeverri MC, Acevedo-Mendoza WF, et al. Mapping the residual incidence of taeniasis and cysticercosis in Colombia, 2009-2013, using geographical information systems: Implications for public health and travel medicine. *Travel Med. Infect. Dis.* 2017; pii: S1477-8939(17)30223-5 Available at: <http://www.ncbi.nlm.nih.gov/pubmed/29288739>. Accessed 24 February 2018.
5. López-Castillo CA, Díaz-Ramírez J, Gómez-Marín JE. [Risk factors for *Toxoplasma gondii* infection in pregnant women in Armenia, Colombia]. *Rev. Salud Pública (Bogotá)*. 2005; 7:180-90. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/16149277>. Accessed 23 January 2015.
6. Alvarez C, de-la-Torre a., Vargas M, et al. Striking Divergence in *Toxoplasma* ROP16 Nucleotide Sequences From Human and Meat Samples. *J. Infect. Dis.* 2015; 211:2006-2013.
7. Lora-Suárez FM, Aricapa H, Perez JE, et al. Detección de *Toxoplasma gondii* en carnes de consumo humano por la técnica de reacción en cadena de la polimerasa en tres ciudades del eje cafetero. *Infectio* 2007; 11:117-123. Available at: <http://www.scielo.org.co/pdf/inf/v11n3/v11n3a04>.
8. Franco-Hernandez EN, Acosta A, Cortés-Vecino J, Gómez-Marín JE. Survey for *Toxoplasma gondii* by PCR detection in meat for human consumption in Colombia. *Parasitol. Res.* 2016; 115(2):691-695; Available at: <http://www.scopus.com/inward/record.url?eid=2-s2.0-84944529291&partnerID=MN8TOARS>.
9. Rueda K, Trujillo JE, Carranza JC, Vallejo GA. Transmisión oral de *Trypanosoma cruzi*: un nuevo escenario epidemiológico de la enfermedad de Chagas en Colombia y otros países suramericanos. *Biomédica* 2014; 34:631-641.

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