AWARD FOR MOST-LIKED RESEARCH PRESENTATION AWARDED BY THE PUBLIC:

37. **METANALYSIS OF THE DIAGNOSTIC PERFORMANCE OF WESTERN BLOT FOR THE EARLY DIAGNOSIS OF CONGENITAL TOXOPLASMOSIS**

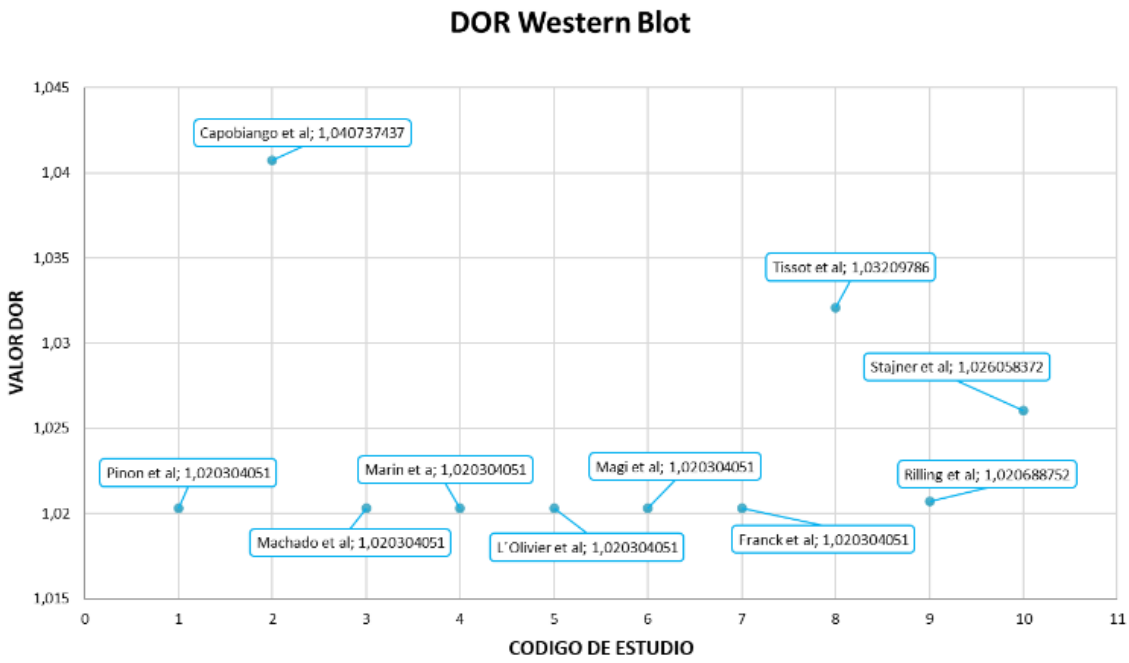
Sebastián Serna Rivera[1], María Antonia Restrepo Duque[1], Jocelyn Alexandra Arredondo Torres[1], Juan David Fandiño López[1], Luis Felipe Mosquera Solano[1], Jorge E. Gómez M[2].

[1] Second year Medical Student. University of Quindío, Armenia, Colombia.
[2] MD. PhD Professor, University of Quindio, Armenia, Colombia.

https://www.youtube.com/watch?v=vlsNiqV1-28&t=19860s

BACKGROUND: Congenital toxoplasmosis is an infection caused by the Toxoplasma gondii a protozoa obligate intracellular parasite that appears after a mother´s primary infection occurs during pregnancy. The congenital infection can cause severe symptoms such as: hydrocephalus, intracranial calcifications, seizures, hepatosplenomegaly, and chorioretinitis, leading to irreversible neurological and ocular lesions. Its early diagnosis is critical to obtain good outcomes after treatment where the western blot is considered as the gold standard. Western blot discriminate antibodies for specific proteins of the microorganism enabling differentiation between antibodies transmitted by mother from those elaborated by the newborn (compared immunological profiles) and can be obtained commercially or be elaborated by the clinical laboratory test ("house made"). However, there is not metanalysis about the diagnostic properties of the test that can support evidence-based recommendations for its use. **METHODS**: The research terms used were: "congenital toxoplasmosis" and "western blot". Databases for bibliographic searches were PubMed and Scopus, without restriction of date or language. Selection criteria were studies of evaluation of the diagnostic performance of western blot assay that included newborn with a definitive diagnosis of congenital infection by Toxoplasma according to the European network case definition (IgG anti-Toxoplasma persistent at 10 months of age) and controls that were defined by IgG antibodies that disappears in the serum of children in absence of treatment before six months of age. Screening and literature selection was done by the four researchers and disagreement were settled by reaching a consensus by discussion with mentor to avoid the erroneous exclusion of eligible articles. The PRISMA statement (http://www.prisma-statement.org/) was followed for quality assessment of the manuscript. The data were organized in an evidence table matrix, and sensitivity, specificity, and diagnostic odds ratio (DOR) index were calculated. **RESULTS**: The sensitivity obtained was 93.8 (95 CI: 79.2-98.4) and the specificity of 96.6% (95 CI: 89.8-98.9). However, heterogeneity was observed between the studies. Causes for heterogeneity were the different methods to elaborate the western blot assay. Commercial methods showed better performance that homemade methods. The results suggest that better accuracy can be obtained by using standardized commercial test. **CONCLUSION**: In conclusion, the meta-analysis supports the use of the Western Blot test as an effective method for the diagnosis of congenital toxoplasmosis in terms of sensitivity and specificity. However, further research is needed to establish more accuracy regarding sensitivity and specificity in the diagnosis in different settings by using well standardized assays.

Figure. DOR, the Diagnostic Probability Ratio of each of the Studies.



Key words: Congenital Toxoplasmosis; Western Blot. (Source: MeSH-NLM).