IS SABIN-FELDMAN DYE TEST USING *T. GONDII* TACHYZOITES FROM ANIMAL INOCULATION STILL THE BEST METHOD FOR DETECTING *TOXOPLASMA GONDII* ANTIBODIES?

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Abstract. Although the Sabin-Feldman dye test is the gold standard for detecting *Toxoplasma* antibodies in human, it is performed only in reference laboratories because live virulent *T. gondii* are used for the test. We collected 210 human serum samples and tested them by the dye test using *in vivo* tachyzoites (conventional method) then compared these results with three other methods: a dye test using cell culture-derived *T. gondii* tachyzoites and indirect immunofluorescent antibody tests (IFAT) using *in vivo* and *in vitro* tachyzoites. We found the conventional dye test detected the highest percent of cases (4.3%), followed by the IFAT using parasites from mice (3.8%), then the dye test and the IFAT using cell culture tachyzoites (both 2.8%). Agreement with the dye test when using mouse and cell culture derived tachyzoites was 96.7%. Using *in vivo* tachyzoites for the dye test and the IFAT gave 94.3% agreement, while using *in vitro* tachyzoites gave 94.8% agreement. When compared with the conventional dye test, the IFAT had 75% sensitivity and 100% specificity. The *T. gondii* tachyzoites obtained from cell culture had a lower virulence, as indicated by a three times longer survival period in the inoculated mice. We favor the conventional dye test as the gold standard for *Toxoplasma* antibody detection. *In vitro* tachyzoites can be used routinely in the dye test but false negative results may occur in some cases. The IFAT, using either *in vivo* or *in vitro* tachyzoites, are alternatives for laboratories where provision of live tachyzoites is limited.

Keywords: *Toxoplasma gondii,* mouse and cell culture derived tachyzoites, dye test, IFAT

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