



## Research Article

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### Comparison of three immunoassays for detection of anti-toxoplasma IgM antibodies in pregnant women

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#### Abstract

**Aim of investigation:** Comparison of an electrochemiluminescence technique (ECL, applied in Cobas 6000 instrument), an enzyme-linked immunosorbent assay (ELISA, applied in CHORUS instrument) and an enzyme-linked fluorescent assay (ELFA, applied in MINI-VIDAS instrument) for early diagnosis of *Toxoplasma gondii* infection in pregnant women. Medical diagnosis is required to determine the most sensitive techniques to diagnose this pathogen, in the framework of which is developed this scientific work. This is very important due to the multiple fetal infections during pregnancy.

**Methods:** ECL, ELISA and ELFA techniques are used to detect anti-toxoplasma IgM antibodies in pregnant women, during the first trimester of pregnancy. 200 samples were analyzed with each technique and sensitivity and specificity are evaluated for each of them.

**Results:** ECL technique has resulted in higher sensitivity (100%) and specificity (99.3%), while ELISA technique has resulted in lower sensitivity (87.5%) and specificity (97.3%).

**Conclusion:** Analysis of the results confirmed the usefulness of ECL technique for an early diagnosis of *Toxoplasma gondii* infections in pregnant women. Anyway, for diagnostic purposes, the results should always be assessed in conjunction with the patient's medical history and other clinical examinations.

**Keywords:** Electrochemiluminescence; ELISA; ELFA; *Toxoplasma gondii*; sensitivity.

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