

PERFORMANCE OF IMMUNOCHROMATOGRAPHIC AND IMMUNOENZYMATIC TECHNIQUES IN THE DIAGNOSIS OF TOXOPLASMOSIS IN PREGNANT WOMEN IN CAMEROON: NEED FOR HARMONIZATION

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Objectives: in order to contribute to the improvement of the management of toxoplasmosis in pregnant women in Cameroon, performance of two techniques commonly used in the diagnosis of toxoplasmosis was evaluated.

Methods: a total of 541 pregnant women were recruited from seven hospitals in two Regions of Cameroon, of which 63% (341: Batch1) were from health facilities (HF) using an immunochromatographic technique (ICT) as a screening test for toxoplasmosis, and 37% (200: Batch2) from those using an immunoenzymatic technique (IEZ). On each sample, Ig Immunoglobulin G (IgG) and IgM were tested by three techniques: a Rapid Diagnostic Test (RDT), an Enzyme Linked Immuno Sorbent Assay (ELISA) and a Vidas Enzyme-linked fluorescent assay taken as reference (VIDAS/ELFA). The results from the health facilities were recorded.

Results: for the IgG assay, our two laboratory methods were sensitive (96.0% and 97.5%) and specific (64.2% and 59.7%). Their concordance rates with the VIDAS/ELFA reference were above 60% ($P < 0.001$). Moreover, for the IgM assay, the performances of the two methods were equivalent: $Se = 18.2\%$, $Sp = 99.4\%$ with a low concordance rate ($Kappa = 0.24$). Considering the results provided by the selected hospitals, the ELISA used in Batch2 showed similar performances to the two techniques used in reference lab while the performances were low for the RDT used in Batch1.

Conclusion: both methods showed similar performances (good for IgG) and poor for IgM). However, for the immunochromatographic method, differences in performance were found between our results and those provided by the selected health facilities. These differences suggest a harmonization of diagnostic techniques for toxoplasmosis in pregnant women in Cameroonian health facilities.

Keywords: Toxoplasmosis, pregnant women, diagnosis, RDT, ELISA, performance, Cameroon

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