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O1206 Multicentric evaluation of the bio-Evolution*Toxoplasma gondii* kit for the detection of *Toxoplasma* DNA in immunocompromised patients

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Background: PCR is a key tool for the diagnosis of cerebral and disseminated toxoplasmosis in immunocompromised patients. However, most of the methods used in this context are based on "in-house" protocols, which standardization is lacking. Sensitivity and reliability should be evaluated in order to improve the diagnostic rate. Bioevolution kit has been successfully evaluated for the detection of *Toxoplasma* DNA in amniotic fluid samples. The aim of this study was to evaluate the Bioevolution kit in comparison with 3 "in house" PCR methods in immunocompromised patients.

Materials/methods: The study included 250 DNA samples from 165 immunocompromised patients consisting in 167 bloods, 24 bronchiolo-alveolar liquids (BAL), 42 cerebrospinal fluids (CSF) and 7 others from the 3 participating centers. Samples were chosen according to previous determination by local protocol as positive, negative and "of interest", meaning last negative test before positivity or first negative test after positivity. "In-house" PCR consisted in (i) Rep529 amplification in duplicate, (ii) in triplicate, and (iii) B1 monoplicate amplification according to the center. Bioevolution method consisted in amplification of Rep529 in monoplicate and the use of an internal control for detection of PCR inhibitors and was used accordingly to the manufacturer' instructions.

Results: Global comparison of DNA detection using Bioevolution kit and B1 "in house" PCR retrieved a 94.4% concordant result and 6 "of interest" samples which were false negative using B1 method. Concordance was at 97.9% with Rep 529 "in house" PCR methods. Three false negative results with the Bioevolution kit returned positive when tested in a second run.

Relative quantification of 47 positive samples was higher with Bioevolution PCR than with the "in-house " PCR (-1.7 Ct, p= 0.0002).

Conclusions: Bioevolution Toxoplasma DNA kit compares favorably (when use in duplicate) with "in-house" methods to detect *Toxoplasma* DNA in blood, BAL and CSF from immunocompromised patients and appears as a valuable diagnostic alternative in this context.