EVALUATION OF AN IMMUNOCHROMATOGRAPHY TEST (CRYPTO-STRIP) FOR THE DETECTION OF Cryptosporidium parvum IN STOOL SAMPLES.

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INTRODUCTION
Cryptosporidium is a protozoa frequently found in our environment as a cause of diarrhoea.
Cryptosporidiosis is diagnosed in the laboratory by modified ZN tincture techniques, IF, and ELISA. These techniques are laborious, and the last two are expensive, and have to be carried out by specialist personnel.
Coris BioConcept has designed an immunochromatography test which can detect Cryptosporidium parvum oocysts directly in faeces.

MATERIAL AND METHODS
The test is based on use of a homogenous immunochromatographic system with colloidal gold particles.
The procedure consists of dissolving approx. 50 mg of stools in 0.5 ml buffer. The immunochromatography rod is then introduced, using monoclonal antibodies directed against an antigen of the wall of the oocysts of C. parvum.

We carried out a test with 50 specimens kept at 4ºC without preservatives, positive to Cryptosporidium by modified ZN.
We included 25 negative controls both of specimens without parasites and positive to other organisms: Giardia lamblia, Entamoeba coli, Endolimax nana, Blastocystis hominis, Trichuris trichiura, Ascaris lumbricoides and Strongyloides stercoralis.

In order to determine the test detection threshold, we carried out successive dilutions of positive stools mixed with Cryptosporidium negative stools in five specimens and measured the last concentration detected and the first not detected by fluorescent microscopy.

RESULTS
Of the 50 positive specimens, 49 were true positive with 1 false negative, giving a sensitivity of 98%. After genotyping the negative specimen, it was noted that this corresponded to a different species from C. parvum - C. meleagridis.
All the negative controls were true negative with 100% specificity.
The test can detect concentrations of 1,000 oocytes/ml, corresponding to 10,000 oocytes/g of stools.

CONCLUSIONS
1. The concentration of oocysts /g of stools excreted by patients is usually above the test detection ranges, which makes its sensitivity very high. The specificity is 100%.
2. The results obtained indicate that the Crypto-strip test (Coris BioConcept) can be a useful alternative system for the quick detection of C. parvum in stools, giving results in less than 10 minutes, and easy to interpret, without the need for specialist personnel.

BIBLIOGRAPHY