

INFECTION SUSTAINED BY ECHINOCOCCUS: DIAGNOSIS BY COMPLEMENT FIXATION TEST

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Introduction. The complement fixation test (CFT) is useful to detect the presence of antibodies (IgG and IgM) in the serological diagnosis of Echinococcosis. The Infection is caused by the *Echinococcus* spp. tapeworm, that once located in the body of the host, is transformed into a hydatid cyst; the leakage of hydatid fluid, because of breakage the cyst, can cause hypersensitivity reactions. Given the difficulty of finding in the market the *Echinococcus* antigen, we developed a method of extraction and processing of the antigen. This paper describes the evaluation of the antigen prepared from hydatid cysts for the use in manual and automated (CHORUS, DIESSE Diagnostica Senese SpA) test systems.

Methods. The hydatid fluid properly collected from the cysts, derived from infected sheep, was partially purified by ultra centrifugation after successive cycles of freezing and thawing. The antigen thus prepared was optimized for the manual complement fixation test, and evaluated using human serum samples characterized by the Sieroimmunology laboratory of the Careggi Hospital (Firenze, Italy). The experimental conditions found for the manual method were then transferred to the automated Chorus system. 100 sera from infected sheep were analyzed for the presence of anti-*Echinococcus* complement-fixing antibodies. The system was also assessed in terms of reproducibility of results.

Results. The study identified correctly 98 out of the 100 serum samples.

Conclusions. The Echinococcus antigen partially purified from hydatid cyst was found suitable for being used for CFT both in the manual and in the automated method, correctly identifying sera (human and not) from infected individuals.