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Abstract

The Enzyme linked immunosorbent Assay (ELISA), indirect haemagglutination (IHA) and immunoblot techniques (IB) were used for the serodiagnosis of the cystic echinococcosis (CE) cased by *Echinococcus granulosus* in surgically confirmed cases and the inhabitants of Gharandal and Rawath villages, Tafieleh Governorate.

Antigens used for the detection of IgG (ELISA) and IB or total antibodies (IHA) included crude sheep hydatid fluid (CSHF), boiled antigen B (BAB), autoclaved antigen B (AAB) and homogenate protoscoleces antigen (HPA). The overall sensitivity of the ELISA and IHA tests used for the serodiagnosis of 57 surgically confirmed cases was 91.2% of 68.4% respectively. The sensitivity of both tests was comparable in groups whose sera were collected prior or up to one year following surgery at 95.8% and 87.5%, respectively. In contrast, the sensitivity of the ELISA was significantly higher than that of IHA for sera of patients collected after one year of surgery. A positive correlation was noted between the titers of antibodies, detected by both ELISA and IHA of surgically confirmed cases (*r* = 0.61).

Using the IB technique, antigen B fraction (8/12, 16 and 24 KDa) were detectable by sera of 68.4% using CSHF antigen or AAB, 49.1% using BAB and 22.8% using HPA as detecting antigens. The overall sensitivity of the three AgB fraction was similar in sensitivity to the immunoreactivity of the 8/12 KDa fraction alone indicating that the detection of the latter fraction is a sufficient indication of CE infection.
Cost of illness and surgical intervention of human cystic echinococcosis cases in Jordan was economically evaluated by 77 surgeons and 77 CE patients, the cost of diagnosis was estimated as US $111.3 and 146.2 to surgeons and patients, respectively. The cost of the CE surgery was US $ 590.2 and 638.5 as estimated by both groups, respectively.

A total of 45 out of 386 (11.7%) serum samples collected from Gharandal/Rawath villages, in Tafieleh Governorate were seropositive for IgG antibodies as determined by the ELISA using CSHF as an antigen. Females showed similar seropositivity rate to that of the males. Mean age of seropositive individual was 21.5 years of old. All of the seropositive individual come from 36 households and 33.4% of these households had two or more seropositive individuals per household.

Knowledge, attitudes and practices (KAP) of 77 CE patients as well as several Jordanian groups of different occupation including 144 shepherds, 119 animal farmers, 25 slaughter house worker, 400 university students and 80 inhabitants of Gharandal/Rawath focus were analyzed through a set of questionnaires. All of these groups had poor knowledge of CE especially the source and causes of infection. All practices and attitudes of each group favored continuous transmission of the parasite in the country.