

Summary

A study of larval stage of *E. granulosus* according to molecular level was carried out in the present study, hydatid cysts were collected from intermediate hosts " Human (Liver, Spleen, Lung) and liver of sheep, goat, cattle and buffaloes" . Also, 30 patients infected with hydatid cysts for immunological study .

The study showed that the prevalence of hydatidosis in females was higher than that of the males, the female : male ratio of infection was 2.75 : 1 . The distribution of age for hydatidosis patients was between (12 – 40) years . The percentage of liver hydatidosis was higher (64.66%) than any other organs . The hydatid cysts were fertile in oldest age groups .

A - Molecular study :

DNA extracted from germinal layer cells of isolated hydatid cysts and preserved for various periods in 70% ethanol .

Genetic analysis of isolated DNA from hydatid cysts collected from human and animals was done by Polymerase Chain Reaction (PCR) to determine genetic variation depending on Random Amplified Polymorphic DNA (RAPD) by using 10 primers . The genetic variations represented by presence of amplified bands in tested samples or not . DNA isolated from germinal layer of hepatic hydatid cysts of buffaloes and cows didn't gave positive result .

The current results of this study have shown as follows :

- 1 - It was found one primer (OPA – 01) that able to diagnose sample numbered 1 which represent the DNA isolated from germinal layer of human hepatic hydatid cyst at age group 10 – 20 years old .
- 2 - The ability of primer OPC – 10 to determine fingerprinting of DNA isolated from germinal layer of sheep hepatic hydatid cyst .
- 3 - The ability of primer OPC – 05 to determine fingerprinting of DNA isolated from germinal layer of human splenic hydatid cyst at age group 30 – 40 years old .

4 - The ability of primer OPE – 07 was used to determine fingerprinting of DNA isolated from germinal layer of goat hepatic hydatid cyst .

5 – The amplification process to the DNA samples which extracted from cows and buffaloes hepatic hydatid cysts wasn't completed by using all 10 primers .

B – immunological study :

The study of concentrations of IgG, IgM, C3 and C4 were carried out by radial immuno diffusion assay (RIDA) . The results showed the significant increasing in IgG concentration of males in comparison with females and highly increasing in males at age group 10-20 years old ($P < 0.01$) .There was significant difference in IgM concentration, significant increasing in females at fourth age group, with significant decreasing in IgM concentration of males at different ages . Also, there was significant increasing in C3 and C4 concentrations in females in comparison with males ($P < 0.01$) .