

Proteomic study on human hydatidosis

Cystic echinococcosis(CE)/hydatidosis is a zoonotic parasitic disease, infecting both humans and animals with worldwide distribution, including Iran. The cause of the disease is the larval stage of a tapeworm, *Echinococcus granulosus*. Mature worms live in the gut of domestic and wild carnivores. Human can be infected accidentally by ingesting the parasite egg. Hydatid cyst is formed in various organs of the human body including liver, lungs, CNS, etc. Due to the similarity with a number of other diseases, clinical and para-clinical diagnosis is difficult. Different methods such as imaging, serology, molecular diagnosis, etc. have been used for diagnosis and evaluation of the disease condition, while each method has its advantages and disadvantages. Different strains of *Echinococcus granulosus* can create its own clinical manifestations, making the diagnosis more difficult. Therefore, a combination of different clinical and para-clinical methods are used for diagnosis, treatment and their evaluation success. Nowadays, application of modern methods shows a promising approach for many diseases with valuable progress in this regard. In order to find new ways for reducing the complications of human illness; the researchers from various disciplines of internal medicine, surgery, radiology, parasitology, pharmacology, molecular biology, immunology, pathology, etc. are studying on this important zoonotic disease. Despite of many efforts, currently, there is no marker for the diagnosis, treatment and control of this infection in humans. Therefore, the invention of new methods with aim of finding specific markers which can facilitate monitoring and control of this infection in humans are very necessary. The present study, which was started from 2016 investigate various aspects of hydatidosis including genomics,

proteomics, metabolomics and its protein-protein interaction networks. This ongoing project is granted by both office of vice chancellor for research of Shahid Beheshti University of Medical Sciences and proteomics research center with collaborations of Prof. Nayebali Ahmadi, Prof. Mostafa Rezaeei Tavirani, Dr. Hakimeh Zali, Prof. Seyed Mahmoud Sadjjadi and Miss Fatemeh Sadat Sadjjadi.