



Seroprevalence of human cystic echinococcosis in South Kashmir, India

Abas Andrabi^a, Hidayatullah Tak^a, Bashir A. Lone^{b,*}, Bilal Ahmad Para^c

^a Department of Zoology, University of Kashmir, Srinagar 190006, J&K, India

^b Department of Bioresources, University of Kashmir, Srinagar 190006, J&K, India

^c Department of Statistics, University of Kashmir, Srinagar, J&K, India

ARTICLE INFO

Article history:

Received 27 February 2020

Received in revised form 4 August 2020

Accepted 9 August 2020

Keywords:

Seroprevalence

ELISA

Cystic echinococcosis

IgG

Kashmir

ABSTRACT

Cystic echinococcosis is a zoonotic disease that causes economic losses and public health problems throughout the globe. Present study was undertaken to estimate the seroprevalence of cystic echinococcosis in humans of South Kashmir and to determine the risk factors associated with this disease. The present study was carried out from April 2017 to March 2018, during which 458 blood samples (from 222 males and 236 females) were collected from selected subjects from 12 villages of four districts along with demographic characteristics. Samples were analyzed by an Enzyme-linked Immunosorbent Assay (ELISA) (commercially prepared kit) for detection of immunoglobulin IgG against cystic echinococcosis. Out of 458 samples, 20 (4.36%) samples were found positive. Results implied that the seroprevalence of cystic echinococcosis in South Kashmir had significant relationship with age, gender and occupation ($P < .05$). Seroprevalence for cystic echinococcosis was significantly higher among males, children, and illiterate persons.

© 2020 Published by Elsevier Ltd on behalf of World Federation of Parasitologists. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction

Cystic echinococcosis caused by the larvae of cestode parasite *Echinococcus granulosus*, is a significant public health problem and zoonotic disease that occurs throughout the world and causes economic losses and public health problems in many countries. Domestic intermediate hosts (sheep, goats and cattle) are major reservoirs for the disease in humans (Thompson, 1995). This zoonotic parasite maintains its life cycle primarily between domestic dogs (definitive host) and domestic ungulates (intermediate host). Humans become infected by the accidental ingestion of *E. granulosus* eggs shed in the faeces of infected canids resulting in cystic echinococcosis (Moro, 2013; Eckert and Deplazes, 2004). Cystic echinococcosis is one of the important and serious diseases in many countries in the world because the migration of infected dogs and livestock. Moreover, it is more prevalent in those areas where intermediate hosts and definitive hosts such as dogs are in close relationship (Zhang and Mc Manus, 2006). The clinical features depend mainly upon the organ involved and mimic many other diseases, thus the diagnosis is difficult and is currently based on identification of the parasite's structures by imaging techniques, including ultrasound, computerized tomography and magnetic resonance imaging (Benito-Carmena and Eraso, 2007). However, these techniques are relatively com-

* Corresponding author.

E-mail address: bashir.lone@gmail.com. (B.A. Lone).