HYDATID DISEASE

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ABSTRACT

Introduction: Hydatid disease is a common problem in an agricultural area like ours and has numerous manifestations. The commonest site affected is the liver followed by lungs. Spleen, kidneys, peritoneal cavity, bones, spinal cord and brain is less commonly affected. We analyzed the characteristics of 25 cases of hydatid cyst seen in the department of medicine Hyatabad Medical Complex, Peshawar Jan. 2010 till Nov. 2010.

Material and Methods: A total of 25 cases were diagnosed to have hydatid cyst based on ultra sound/computerized tomographic scan supplemented by ecchinococcus haemagglutination test. A detailed questionnaire was filled who had confirmed hydatid cyst.

Results: Out of 25, 14 were male and 11 were female. Mean age was 27±5 SD years. Out of 25, 15 (60%) were in liver, 8 (32%) were in lungs, one (4%) was in spleen and 1 (4%) was in the kidney. Out of 15 in the liver, 12 (80%) were in the right lobe, 3 (20%) were in the left lobe. Out of the 8 in the lung, 5 (62.5%) in the right lung, 2 (25%) were in the left lung and 1(12.5%) was bilateral. Out of 25, 22 (88%) were from rural area, 3 (12%) were from urban area.

Conclusion: The commonest affected by hydatid disease is liver followed by lungs. Due large size, the right side of the liver is more commonly affected than the left. Right lung is affected more commonly than the left. Since people involved with agricultural activities are more likely exposed to the disease therefore it is more common in the rural area.

INTRODUCTION

Echinococcal disease is caused by infection with the metacestode stage of the tapeworm Echinococcus, which belongs to the family Taeniidae. Four species of Echinococcus produce infection in humans; E. granulosus and E. multilocularis are the most common, causing cystic echinococcosis (CE) and alveolar echinococcosis (AE), respectively. The two other species, E. vogeli and E. oligarthrus, cause polycystic echinococcosis but have only rarely have been associated with human infection[1]. The initial phase of primary infection with E. granulosus is always asymptomatic and may remain so for many years. Subsequent clinical features and complications of E. granulosus infection depend upon the site of the cysts and their size. The liver is affected in approximately two-thirds of patients, the lungs in approximately 25 percent; the vast majority of patients have single-organ involvement, and more than 70 percent have only one cyst. The long-term outcome is variable and many patients remain asymptomatic. A combination of imaging and serology usually make the diagnosis of both cystic and alveolar echinococcosis, although serologic assays are more sensitive and specific for E. multilocularis compared to E. granulosus infection. The diagnosis is typically made by ultrasound imaging in combination with serologic testing with ELISA[1,2,3].

We analyzed the characteristics of 25 cases of hydatid cyst seen in the department of medicine Hyatabad Medical Complex, Peshawar Jan. 2010 till Nov. 2010.

MATERIAL AND METHODS

A total of 25 cases were diagnosed to have hydatid cyst based on ultra sound/computerized tomographic scan supplemented by ecchinococcus haemagglutination test. A detailed questionnaire was filled who had confirmed hydatid cyst.

RESULTS

Out of 25, 14 were male and 11 were female. Mean age was 27±5 SD years. Out of 25, 15 (60%) were in liver, 8 (32%) were in lungs, one (4%) was in spleen and 1 (4%) was in the kidney. Out of 15 in the liver, 12 (80%) were in the right lobe, 3 (20%) were in the left lobe. Out of the 8 in the lung, 5 (62.5%) in the right lung, 2 (25%) were in the left lung and 1 (12.5%) was bilateral. Out of 25, 22 (88%) were from rural area, 3 (12%) were from urban area.

DISCUSSION

The life cycle of Echinococcus includes a definitive host (usually dogs or related species) and an intermediate host (such as sheep, goats or swine). Humans are incidental hosts; they do not play a role in the transmission cycle. E. granulosus adult tapeworms are usually found in dogs. E. multilocularis adult tapeworms are usually found in foxes or occasionally cats. The adult tapeworm inhabits the small intestine of the definitive host. The definitive host may be infected with thousands of worms. E. granulosus worms are usually 2 to 7 mm long and consist of a scolex with suckers and hooks, as well as at least three proglottid segments. E. multilocularis worms are up to 4 mm long

with two to six proglottic segments. The tapeworm is composed of proglottid segments which have both male and female sexual organs and can produce parasite eggs 30 to 40 μm in size containing embryos (oncospheres). Each adult worm can produce thousands of eggs per day. The eggs are expelled in the feces of the definitive host and released to the environment, where they are infective to susceptible intermediate hosts and human incidental hosts. Eggs can survive in the environment for many months in temperatures ranging from -30°C to 38°C, though they desiccate at very hot temperatures[1,2].

Following egg ingestion by the intermediate or incidental host, the oncospheres hatch from the eggs, penetrate the intestinal mucosa, enter the blood and/or lymphatic system, and migrate to the liver or other visceral organs. A few days later a fluid-filled cyst begins to develop, with subsequent development of multiple layers to become a metacestode (hydatid cyst). The nature of the cyst is variable depending on the echinococcal species. Subsequently protoscolices develop within the hydatid cyst. In definitive hosts that ingest intermediate host visceral organs containing hydatid cysts composed of protoscolices, the protoscolices evaginate, attach to the intestinal mucosa and develop into adult worms. Such development occurs over a period of four to seven weeks, completing the life cycle. Areas where sheep are raised tend to have the highest rates of endemic disease. Transmission frequently occurs in settings where dogs eat the viscera of slaughtered animals. The dogs then excrete infectious eggs in their feces, which are passed on to other animals or humans via fecal-oral transmission. This may occur via environmental contamination of water and cultivated vegetables, or contact between infected domestic dogs and humans (often in children). Direct transmission of echinococcosis from human to human does not occur since two mammalian species are required for completion of the life cycle[3].

The embryo may pass the filter of the portal circulation and lodge in the lungs, giving rise to a 'primaryv' lung cyst. If it succeeds in passing the lungs a primary peripheral cyst may develop in any structure of the body. Peripheral cysts occur in muscles in about 4 percent, in bone in 2 percent, and in the kidneys in 2 percent. It should be emphasized however that between 60 and 70 percent of primary cysts occur in the liver, the lungs being next with about 23 percent. The right lobe being larger than the left is correspondingly more commonly involved. The cyst usually continues to grow until one or more of the following complications bring the patient for treatment[4,5,6,7,8,9]. If a primary cyst disseminates its contents to other parts of the body the results are known as 'secondary' cysts[10,11]. Our results are similar to those stated as above.

There is no difference in the gender affected by echinococcus. Most of the cases the infection is acquired during childhood but is diagnosed later on in life.

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