CHAPTER 70

HYDATID DISEASE

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HISTORY AND EPIDEMIYOLOGY

Hydatid cyst disease, which has been known since the time of Hippocrates, is a parasitic disease caused mostly by Echinococcus granulosus [1]. The word hydatid is of Greek origin and means "water-filled pouch" [2]. Hippocrates's statement, "If the liver is ruptured with water, the patient's belly is filled with water, he dies", indicating that this disease has been known since ancient times [3]. It was described by Thabesius in the 17th century and claimed to have come to Europe through the dogs of whale hunters from Iceland. Infestation is common in geographic areas where there is continuous contact with meat-eating animals or animals such as sheep [4]. Hartman described the parasite in dogs in 1695. In 1808 Rudolphi used the definition of hydatid cyst for the echinococcosis in humans. The terms echinococcosis and hydatidosis are used to describe zoonotic infections caused by adult and larval (metasestod) forms of echinococcal sestodes. The term hydatid cyst is not a disease name, but the larval (metasestod) stage in the life cycle of Echinococcus granulosus. Therefore, the correct use should be "Hydatid disease" (HD).

There are 4 types of Echinococcus metasestod form that can cause disease in humans. As they are Echinococcus granulosus, Echinococcus multilocularis (alveolar cystic echinococcus), Echinococcus vogeli (polycystic echinococcus) and Echinococcus oligarthrus (polycystic echinococcosis) [5].

Hydatid disease is the most widespread parasitic disease in the world. It is an important parasitosis that is common in countries where preventive medicine is inadequate and agriculture and animal husbandry are common [6]. The disease is common in almost every region of the Middle East and Asia, South America, North Africa, Australia, and Mediterranean countries where agriculture and animal husbandry exist [7]. The incidence varies according to the importance given by countries to health policies and preventive health services. Especially due to the increasing travel and migration problem with technological developments, it can be encountered in every country. It is frequently seen in animal husbandry. The disease is mostly seen in regions with low socio-economic status and inadequate education.

LIFECYCLE

There are four species of echinococcus that are epidemiologically different. The most common species is Echinococcus Granulosus. The main hosts are carnivores such as dogs, wolves and jackals. Taenia Echinococcus lives in the small intestine of the main hosts and is transmitted to the main hosts by ingestion of diseased intermediate host or-

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tween cures [46]. When evaluating the treatment, liver function tests, renal functions and complete blood count should be performed between courses. Side effects such as abdominal pain, vomiting, fever, headache, dizziness, allergic symptoms may be observed during the use of both drugs. The most important side effects to be followed are neutropenia. Fever 5%, Reversible Leukopenia 2%, Alopecia 3%, Liver enzymes increase 16% in the treatment of hydatid cyst disease [19]. Although various publications have reported that preoperative medical treatment reduces the risk of relapse by inactivating protoscolexes and has an effect on lowering intracystic pressure, it is known that medical treatment in non-perforated lung hydatid cysts increases the risk of perforation [47]. Another application of medical treatment is to apply it after surgery to reduce the risk of secondary hydatid cyst disease, especially if it is thought that leakage and surrounding tissues are affected during the operation. Since both drugs are considered teratogenic, they are not recommended for use in pregnant women [48].

Complications

Complications caused by intrapulmonary cysts or intrathoracic complications of liver dome cysts constitute the majority of complications related to thoracic surgery. Hydatid cyst is usually complicated when perforated. It has been reported that lung cysts are perforated in 8-55% of cases. While postoperative complication rates in intact cysts are 10% on average, this rate increases to 30% in complicated cysts. In particular, cysts larger than 10 cm are called giant cysts and the symptoms and associated complications caused by pressures to normal lung parenchyma are common in these cysts [49]. After the large lung cysts are complicated, if the diagnosis is delayed, it will destroy the entire lobe. Lobectomy may be required in such cases. Pulmonary cysts are more likely to pave the way for opportunistic infections such as aspergilloma, and cases where pulmonary infections become more complicated have been reported [50]. Cardiac cysts are ruptured in the pericardium and may cause tamponade or pericardial effusion, and liver dome cysts have been reported to cause fistula in the cardiac tamponade. Anaphylaxis is a life-threatening and feared complication in a ruptured hydatid cyst patient [51]. Anaphylaxis and shock can be seen after spontaneous cyst perforation, or after trauma cyst perforation, intraoperative cyst perforation or recurrent cyst hydatid cases. This condition, caused by allergic proteins in the cyst fluid, can progress from a simple allergic reaction to symptoms such as chest pain, pruritus, urticaria, flashing, and shock [52]. Complications and associated mortality rates reported in the literature for hydatid cyst are not high, however, it is not always easy to understand and cope with the complications of hydatid cyst. Because radiological images can mimic many diseases, the most important diagnosis is to take patient anamnesis carefully, question the animal contact and suspend the disease in patients living in the endemic region. In addition, the clinician should know the hydatid disease of the cyst, the modes of transmission and the ways of spreading to other organs. Complications should be well understood and, if necessary, patients should be consulted to the relevant departments (general surgery, cardiovascular surgery, etc.).

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