

Role of Ultrasound of Hydatid Cyst in Human

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Abstract: *Hydatid disease (echinococcosis) is a zoonotic infection of humans caused by Echinococcus granulosus. The disease poses an important public health problem in many areas of the world, particularly among populations that practice sheep husbandry. The prevalence of the disease is reported to be high in Middle Eastern countries, including Saudi Arabia, due to the presence of sheep and dogs living in close contact with humans, especially among the Bedouins. Studies of the disease in the Kingdom have shown multi-organ involvement, including the heart. A relatively high frequency of pulmonary ,hepatic and pancreatic hydatid disease has been reported, presumably because of airborne spread, with the lungs acting as the first filter Most published studies on hydatid disease address clinical and/or management experiences, most which are comparable in many instances. However, this study describes the epidemiology of hydatid disease among diagnosed patients admitted to a major hospital in Alqassim, Saudi Arabia.*

Keywords: Hydatid Cyst in Human, Ultrasound and CT

1. Introduction

Hydatid disease, an infestation commonly caused by *Echinococcus granulosus*. In humans, who serve as an accidental intermediate host, infection is acquired by ingesting food or soil contaminated with eggs excreted from the canine, the definitive host. In primary echinococcosis, larval cysts may develop in every organ. The lung is the second most commonly affected organ after the liver. Cysts are surrounded by the periparasitic host tissue (endocyst). Inside the laminated layer, or hyaline membrane, the cyst is covered by a multipotential germinal layer, giving rise to the protoscolices. The central cavities of cysts of *E. granulosus* are filled with clear fluid and protoscolices. All hydatid cysts carry the risk of rupture, which is the most common complication. Pulmonary hydatid cysts usually remain asymptomatic until the time of rupture when the patient presents with productive sputum, hemoptysis, and fever. Surgery remains the treatment of choice for hydatid cysts of the lung with the aim of using the most conservative surgical method possible. In Saudi Arabia, hydatid disease is not uncommon, with the highest prevalence of the disease reported in the southwestern region of the country. A reported peak frequency of hydatid disease in Saudi Arabia was in the age group of 20-39 years, with higher frequency among males. [3]Surgical treatment constitutes 0.3% of the operative general surgical load and 5% of all major surgical procedure.

2. Materials and Methods

A descriptive study of patients suffering from hydatid disease 2015 was carried out at King Khalid hospital, The medical records department provided a computer-generated print-out of all patients admitted or discharged with a diagnosis of *Echinococcus granulosus* infection. 20 patients were reviewed, but 3 cases were excluded because the diagnostic and other relevant data were insufficient. This study is, therefore, based on the presenting features of 20 patients.

Data compiled for each patient included demographic information (age, sex, education, occupation, nationality and area of residence). A past and present history of intimate contact with dogs, presenting symptoms, and clinical findings, was also considered.

3. Discussion

Previous studies on hydatid disease among Saudi Arabia have shown a higher frequency in females.2,5,6 In this study, there was a male predominance. This probably reflects the pattern of hospital attendance, which is consistent in most studies in the Kingdom. The peak frequency of hydatid disease in the 25-40-year age-group bracket has an economic implication, because this is an active age group. The change in lifestyle over the last few decades could have reduced possible contact with animals. However, in affected females, the peak frequency was age-group, which can be attributed to domestication and increased contact with the intermediate hosts, These organs include Liver spleen, Lung ,stomach, gallbladder, bone, and muscles of the back.

This study showed that the disease was more common among illiterate population, housewives and among agricultural workers and shepherds. In addition, there was a high frequency among those coming in contact with dogs. Therefore, involve health education, reduced contacts with dogs and sheep, with effective disposal of their wastes. The sociocultural and behavioral pattern of life varies from one region to another within the Kingdom of Saudi Arabia.

4. Results

Radiographic Features The 20 patients included 16 males (80%) and 4 females (20%). Their ages ranged between 10 and 60 years . The peak frequency was between 25 and 40 years for the whole group. The studied sample included 10

Saudi patients (50%) from Alqassim KSA, and 10 non-Saudis (50%), who were all residents of Alqassim city. Among the patients, housewives were the most frequently affected occupational group the Data regarding history of intimate contact with dogs was not available in the files of 7 patients. However, 13 patients had present and/or past contact with dogs, such contact either at home or at work. Clinical Features About half (50%) of the patients presented with gastrointestinal tract-related symptoms. The other systems involved were respiratory (32.8%), genito-urinary (11.9%) and musculoskeletal (3%). Two patients (4%) were asymptomatic. Forty patients had hepatic involvement, four of them were considered secondary, and the majority of patients had cysts in the right lobe. The sites involved and the proportion of primary and secondary infestation with hydatid disease. one patient had hydatid disease of the spleen and pancreas. Another patient had hepatic hydatidosis.

5. Conclusion

Cystic Echinococcosis is a disease of the middle aged. Ultrasonogram combined with a CT and MRI is the best diagnostic tools available for abdominal echinococcosis allowing diagnosis and staging, while chest X ray is the best screen for the pulmonary disease.

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