

Cases with Atypically Located Hydatid Cysts

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ABSTRACT

Hydatid cyst (CH) is a zoonotic disease caused by a parasite of the cestode class called Echinococcus [1]. There are 4 main genera of Echinococcus: E. granulosus, E. multilocularis, E. vogeli, and E. oligarthus. Echinococcus granulosus causes cystic echinococcosis (CE), and this clinical form is the most common clinical form both in our country and in the world [2]. It can be involved in many organs and systems. In this study, we aimed to present atypical localized hydatid cysts such as intracerebral, ovary, thigh and uterus. All cases were confirmed by histopathological diagnosis. In conclusion, since our country is an endemic region in terms of hydatid cyst disease, it should be noted that such atypical localizations can be found in many different anatomical regions other than the liver and lung. In the treatment of the disease, appropriate surgical and medical treatment and regular follow-up are important to detect local recurrence and complications of the disease.

Keywords: Atypical Locations; Hydatid; Echinococcosis; Cyst Hydatid; Thigh; Ovarium; Genital

Abbreviations: CH: Hydatid Cyst; CE: Cystic Echinococcosis; USG: Ultrasonography; CT: Computed Tomography; MRI: Magnetic Resonance Imaging; CSF: Cerebrospinal Fluid

Introduction

Hydatid cyst (CH) is a zoonotic disease caused by a parasite of the cestode class called Echinococcus [1]. There are 4 main genera of Echinococcus: E. granulosus, E. multilocularis, E. vogeli, and E. oligarthus. Echinococcus granulosus causes cystic echinococcosis (CE), and this clinical form is the most common clinical form both in our country and in the world [2]. It can be involved in many organs such as the liver, lungs, kidney, spleen, brain, skeleton, and heart. It may present with various symptoms depending on the affected organ. Imaging techniques such as ultrasonography (USG), Computed tomography (CT), Magnetic Resonance Imaging (MRI), and serological tests are used in the diagnosis of echinococcosis [3]. Depending on the affected area, surgery can be performed and antiparasitic drugs such as albendazole are used [4]. In this study, we aimed to present atypical, localized hydatid cysts such as intracerebral, ovary, thigh and uterus. All cases were confirmed by histopathological diagnosis.

Materials and Methods

Case-1

A 20-year-old male patient presented with complaints of convulsions and tremors that lasted for about 30 seconds, occurring 1-2 times a day for a month. He stated that he was conscious during the contraction, and nausea and vomiting were not accompanied. In his history, he stated that he had been operated twice in the last year for pulmonary hydatid cyst, but he did not use the recommended albendazole treatment. There was no feature on his resume. The patient's contractions were evaluated as focal seizures and antiepileptic treatment was started. Brain imaging revealed a cystic lesion with the same density as CSF (Cerebrospinal fluid) with axial dimensions of 8x7 cm at the widest intraparenchymal point, extending from the left frontoparietal to the left temporal lobe at the supraventricular level. The cystic mass was completely excised under general anesthesia and sent to pathology. Histopathological diagnosis was reported as a hydatid cyst. The patient was started on albendazole treatment (Figure 1).

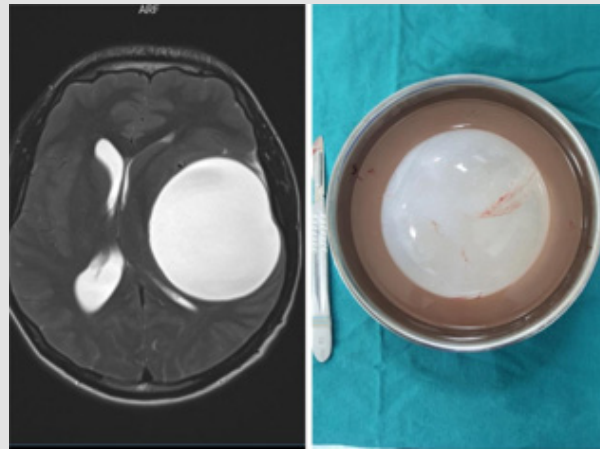


Figure 1: Intracerebral hydatid cyst.

Case-2

A 71-year-old male patient presented with complaints of a mass in the right thigh, pain, and limitation of movement. It was learned from his story that he was engaged in animal husbandry. The patient described that he had a mass in the thigh for 30 years and that it was getting bigger. There was no feature on his resume. MRI showed a

multiloculated cystic appearance of 24 x 11 x 8.5 cm, extending along the rectus femoris muscle in the right thigh. The mass was surgically excised under general anesthesia. Numerous cyst structures covered with gray membranes were seen. Histopathological diagnosis was confirmed as a hydatid cyst. There was no pathological finding compatible with hydatid cysts in other systems and the liver. The patient was started on albendazole therapy (Figure 2).

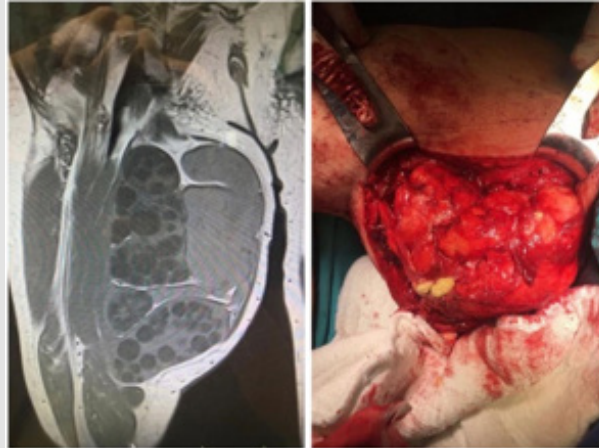


Figure 2: Hydatid cyst on the inner thigh.

Case-3

58-year-old female patient engaged with animal husbandry applied with the complaint of groin pain. There were no features on his resume. In her gynecological examination, an intramural and exophytic subserous cystic lesion was detected in the uterine corpus fundus on ultrasound. In the MR imaging, a multiseptal cystic formation with

dimensions of 73x48 mm was observed in the widest part of the uterus, starting from the corpus fundus level and extending to the cervix. The patient was taken into surgery and total abdominal hysterectomy + bilateral salpingo-oophorectomy was performed. Histopathological diagnosis was confirmed as a hydatid cyst. There was no pathological finding compatible with hydatid cysts in other systems and the liver. The patient was started on albendazole therapy (Figure 3).

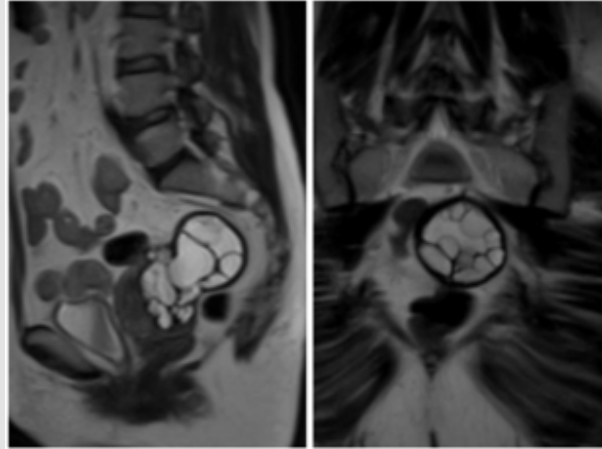


Figure 3: Hydatid cyst in the uterus.

Case-4

A 30-year-old female patient was referred from an external center because of an ovarian cyst. In the ultrasound examination of the patient with inguinal pain and menstrual irregularity, a 5 cm cyst was detected in the left ovary. Albendazole treatment was started with the

preliminary diagnosis of a hydatid cyst. The patient was operated on and the cyst was removed by total excision, and the histopathological diagnosis was confirmed as a hydatid cyst. There was no pathological finding compatible with hydatid cysts in other systems and the liver (Figure 4).

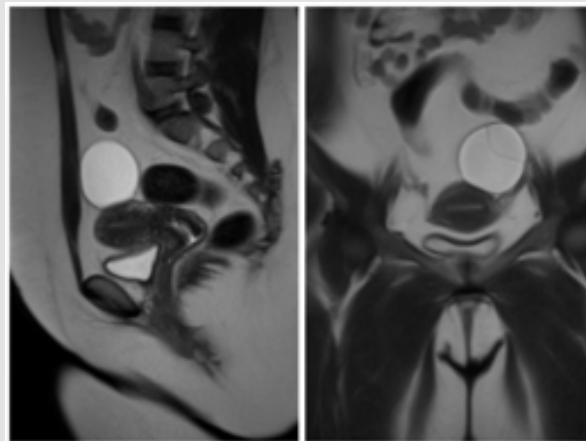


Figure 4: Ovarian hydatid cyst.

Discussion

Hydatid cyst disease is an important health problem in developing countries such as Turkey, where animal husbandry is common [5]. Humans ingest echinococcus eggs by direct contact with water, food, or animals. When the eggs reach the stomach, they lay their larvae in the digestive tract. Embryos travel along the intestinal walls and reach the liver via veins. Embryos can reach the lungs via lymphatic routes. Embryos that go beyond the lung, can settle in other organs such as the heart, pleural cavity, spleen, brain, kidney, peritoneum, and bones

through the bloodstream [6]. It is most commonly located in the liver and lungs. Brain involvement is seen in 1-2% of the cases and is most commonly defined in the pediatric patients and young adults [7]. The most common area of involvement in the brain is the parenchyma, and ventricular involvement can be observed rarely. It should be kept in mind in the differential diagnosis of pediatric and young adult patients presenting with headaches and neurological findings. Our case is a young male patient who presented with a history of seizures, and total excision and antiparasitic treatment were applied. Due to the presence of lactic acid, muscle tissue creates an unfavorable environ-

ment for the parasite, so hydatid cysts in the muscles are extremely rare (0.7-0.9%) [8]. It is extremely difficult to distinguish subcutaneous and intramuscular hydatid cysts from soft tissue tumors. A definitive diagnosis is made by histopathological sampling.

Fine-needle aspiration biopsy is not recommended for diagnosis, as scolexes may rupture and enter the systemic circulation and cause anaphylactic reactions. Total surgical excision and antiparasitic drugs are used in the treatment. Patmano et al. presented 8 cases with muscle involvement in different regions, and they all achieved complete cure with surgical excision and antiparasitic treatment for 3 months after the operation, and no recurrence was detected [9]. In our case, we presented a giant hydatid cyst extending in the rectus femoris muscle and continuing for 30 years. Total surgical excision and antiparasitic treatment were applied to the patient, and he is being followed closely in terms of recurrence. Hydatid cyst involvement in the genital tract and the uterus is extremely rare. The diagnosis of this localization is difficult due to the often misleading clinical and radiological findings, and the diagnosis is often made intraoperatively and after a histopathological examination of the surgical specimen [10]. There is no standard surgical method for its treatment. Hysterectomy remains the treatment of choice to prevent recurrences; The decision should be made according to the patient's age, parity, and pregnancy desire [11]. Our case was 58 years old and underwent total abdominal hysterectomy + bilateral salpingo-oophorectomy. Ovarian hydatid cyst is a very rare presentation and constitutes 0.2-1% of diagnosed cases.

It can be confused with other ovarian cysts and tumors in the differential diagnosis. Since the symptoms may occur due to the pressure due to the increase in size, complications such as the acute abdomen or ovarian torsion may be observed with the rupture of the cyst [12]. Antiparasitic treatment alone is not sufficient and surgery is required. Univesicular cysts in uncomplicated, accessible places are treated with laparoscopic intervention. In our case, the patient who was confused with a simple ovarian cyst had a positive echinococcal hemagglutination test, and a histopathological diagnosis was made by surgical excision. Although the radical treatment of hydatid cysts is surgical excision, antiparasitic albendazole or mebendazole must be added to the treatment to reduce recurrences. In recent studies, dihydroartemisinin was found to be effective against cystic echinococcosis in vitro, and more comprehensive studies are needed [13].

Conclusion

Echinococcosis can appear anywhere in the human body and therefore should always be considered in the differential diagnosis of cystic space-occupying lesions or tumors in patients from endemic areas. In the treatment of the disease, appropriate surgical and medical treatment and regular follow-up are important to detect local recurrence and complications of the disease.

Conflict of Interest

The author declares no economic interest or any conflict of interest exists.

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None declared.

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