

Breast Hydatid Cyst (A Review and Report)

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Abstract

Introduction: Hydatid cyst or echinococcosis is caused by the metastasis stage (the larval stage) of a worm, called *Echinococcus granulosus*. This insidious disease is common between animals and human beings and humans are random intervening hosts in the life cycle of the parasite.

Methods: In this review article, the databases Medline, Cochrane, Science Direct, and Google Scholar were thoroughly searched to identify the studies Breast hydatid cyst. In this review, the papers published until early January 2017 that were conducted to study the Breast hydatid cyst were selected.

Presenting the patient : The patient is a 32-year-old married lady who referred to hospital and had a mass in the left breast in 2016. Following the referral to a doctor and clinical examination, and according to the age of the patient, an ultrasound diagnosis was requested for the patient at the first step. The image of a cystic lesion with a specific area of 22 mm*29 mm in the left upper quadrant is indicated.

Conclusion: . Considering that hydatid cyst is often seen in the liver and lungs, it requires precise examination when it is found in an unusual organ, and these cysts must be differentiated from cysts of the origin of neoplasm and other lesions that are more prevalent, because proper diagnosis is necessary for the treatment and prevention of ill-treatment.

Keywords: Breast, hydatid , cyst

INTRODUCTION

Hydatid cyst or echinococcosis is caused by the metastasis stage (the larval stage) of a worm, called *Echinococcus granulosus*. This insidious disease is common between animals and human beings and humans are random intervening hosts in the life cycle of the parasite. Canidae and other carnivorous creatures are known as the final hosts of this parasite, and they are infected when they feed on the organs of herbivorous creatures which are polluted with this parasite. The egg of this parasite finds its way into the environment through the feces of Canidae and human eat these parasite eggs accidentally and become intervening hosts. Parasites hatch inside the digestive tract and the resulting larvae that passes from the intestinal wall into the portal bloodstream and the liver; if they cross the liver, they reach other organs of the body and become hydatid cysts. Liver is the most commonly infected organ; other organs are infected less, and the incidence rate of hydatid cyst in the brain is about 0.2%. *Echinococcus granulosus*, which mostly causes single-hole cystic lesions, is mainly common in contexts which involve animal husbandry with the simultaneous presence of dogs. This disease is common endemically in different countries, including Middle East, Mediterranean countries, South America, North Africa and Australia. Although brain hydatid cyst is seen in 0.2% of all cases of infection by the *Echinococcus granulosus* parasite, the incidence rate might be higher in some Mediterranean regions, such as Turkey. Iran is, also, considered an endemic area for the incidence of hydatid cyst.

METHODS:

In this review article, the databases Medline, Cochrane, Science Direct, and Google Scholar were thoroughly

searched to identify the studies Breast hydatid cyst. In this review, the papers published until early January 2017 that were conducted to study the Breast hydatid cyst were selected.

PATIENT

The patient is a 32-year-old married lady who referred to hospital and had a mass in the left breast in 2016. Following the referral to a doctor and clinical examination, and according to the age of the patient, an ultrasound diagnosis was requested for the patient at the first step. The image of a cystic lesion with a specific area of 22 mm*29 mm in the left upper quadrant is indicated. A mammogram was requested for a mammogram image of a lesion with a well-defined range of dimensions of 3 * 5/2 CM. There was no evidence of an increase in the thickness of the skin on the lesion or the destruction of the mammary tissue or microcalcification.

According to the history of the patient, mammographic and sonographic findings of the lesion and the disease, hydatid cyst was introduced as the first diagnosis for the patient. The patient underwent lumpectomy surgery, which was, also, confirmed by pathology report.

DISCUSSION AND CONCLUSION

Hydatid cyst disease is a major health problem in terms of spending very high costs and causing mortality in humans and other organisms. The latency period of this disease varies from a few months to a few years, and the rate of growth of cysts is different in different organs of the body. The cyst is diagnosed with CT scan imaging techniques and simple radiological images, especially ultrasound, and the diagnosis is confirmed through finding antibodies in the

serum. Diagnosis of the disease is also possible through Serologic tests against Echinococcus antigen using Eliza method; the rate of liver involvement is 80-100%, lung involvement is 50-56%, and in rare organs, such as the spleen, the incidence rate is less than 1%. Hydatid cyst has the potential of infecting all organs; however, liver is the most commonly, 65-70%, infected organ, lungs occupy the next position, and bone structure and rare organs are the least infected areas, with an incidence rate of less than 2%. Based on the findings of a research which was conducted in Iran, 1759 patients suffering from hydatid cysts turned out to have infected rheumatoid arthritis, lymph nodes, tonsils, pancreas, skin, sweat glands, ovaries, uterus, and salivary glands. Based on a 15-year study conducted in Tehran, the incidence rate of this disease in different organs of the body was like the following: liver 46%, lungs 44%, brain 2%, kidneys 1.5%, testicles, spleen, breast, gallbladder, and uterus and heart less than 1%. Because of the risk of spontaneous or traumatic ruptures, hydatid cysts are usually surgically removed. Due to the very low prevalence of hydatid cysts, pre-operative diagnosis has to be carried out with utmost precision. Considering that hydatid cyst is often seen in the liver and lungs, it requires precise examination when it is found in an unusual organ, and these cysts must be differentiated from cysts of the origin of neoplasm and other lesions that are more prevalent, because proper diagnosis is necessary for the treatment and prevention of ill-treatment.

REFERENCE:

- Tutar N, Cakir B, Geyik E, Tarhan NC, Niron EA. Hydatid cysts in breast: mammography and ultrasound findings. *The British journal of radiology*. 2006 Oct;79(946):e114-6.
- Yuksel BC, Ozel H, Akin T, Avsar FM, Hengirmen S. Primary hydatid cyst of the breast with elevated CA 19-9 level. *The American journal of tropical medicine and hygiene*. 2005 Aug 1;73(2):368-70.
- Alamer A, Aldhilan A, Makanjuola D, Alkushi A. Preoperative diagnosis of hydatid cyst of the breast: a case report. *Pan African Medical Journal*. 2013;14(1).
- Abhyankar A, Joshi J, Basu S. FDG uptake in unilateral breast related to breastfeeding practice in a patient of pulmonary hydatid cyst. *Clinical nuclear medicine*. 2012 Jul 1;37(7):676-8.
- Behzadmehr R, Keikhaie KR, Pour NS. The Study of Pregnant Women's Attitude toward Using Ultrasound in Pregnancy and its Diagnostic Value based on the Demographic Features in Amir-al-Momenin Hospital of Zabol. *Int J Adv Res Biol Sci*. 2017;4(6):58-63.
- Poureisa M, Behzadmehr R, Daghighi MH, Akhoondzadeh L, Fouladi DF. Orientation of the facet joints in degenerative rotatory lumbar scoliosis: an MR study on 52 patients. *Acta neurochirurgica*. 2016 Mar 1;158(3):473-9.
- Daghighi MH, Poureisa M, Safarpour M, Behzadmehr R, Fouladi DF, Meshkini A, Varshochi M, Kiani Nazarlou A. Diffusion-weighted magnetic resonance imaging in differentiating acute infectious spondylitis from degenerative Modic type 1 change; the role of b-value, apparent diffusion coefficient, claw sign and amorphous increased signal. *The British journal of radiology*. 2016 Aug 11;89(1066):20150152.
- Nemati M, Hajalioghli P, Jahed S, Behzadmehr R, Rafeey M, Fouladi DF. Normal Values of Spleen Length and Volume: An Ultrasonographic Study in Children. *Ultrasound in medicine & biology*. 2016 Aug 31;42(8):1771-8.
- Kahkhaie KR, Keikhaie KR, Vahed AS, Shirazi M, Amjadi N. Randomized comparison of nylon versus absorbing polyglactin 910 for fascial closure in caesarean section. *Iranian Red Crescent Medical Journal*. 2014 Apr;16(4).
- Kahkhaie KR, Keikha F, Keikhaie KR, Abdollahimohammad A, Salehin S. Perinatal Outcome After Diagnosis of Oligohydramnios at Term. *Iranian Red Crescent Medical Journal*. 2014 May;16(5).
- Shahraki Z, Keikhaie KR, Amjadi N, Bonjar ZH, Jahantigh H, Doosti F, Shirazi M. Correlation of 4 Hour Urine Samples with 24-Hour Urine Samples for the Diagnosis of Preeclampsia. *Journal of Obstetrics, Gynecology and Cancer Research*. 2017(In Press).
- Mahmoodi Z, rezaie Keikhaie K, Salarzaei M. The relationship between main cardiac risk factors and acute myocardial infraction in the patients referring to Zabol Amir Al-Momenin Hospital in 2016. *Int. J. Adv. Res. Biol. Sci*. 2017;4(8):36-9.
- Keikhaie KR, Kahkhaie KR, Mohammadi N, Amjadi N, Forg AA, Ramazani AA. Relationship between Ultrasonic Marker of Fetal Lung Maturity and Lamellar Body Count. *Journal of the National Medical Association*. 2017 May 11.