

Intensive Hydatid Cyst Case in Cattle

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Abstract

Hydatid cyst is a significant helminthic zoonotic that threatens human and animal health all over the world including our country. Hydatid cyst being endemic in a geography that includes our country, still constitutes a significant health problem. It causes pathology, growth failure and loss of meat and milk by disrupting the function of organs. Hydatid disease could not be eradicated though diagnostic threatment systems are developed and sometimes cyst could become colossal. The greatest problems for hydatid diseases are the complications based on anaphylaxis and their frequency increase through diameter. In this study, we aimed to present case with intensive hydatid cyst.

Key words: Cattle, hydatid cyst, case

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Introduction

Hydatid cyst is a significant helminthic zoonotic that threatens human and animal health all over the world including our country (Güralp 1981). *Echinococcus granulosus* (*E. granulosus*) causes cystic echinococcosis. The mature adult *E. granulosus* are 2 to 7 mm long and 0.6 mm diameter and found in small intestines of carnivora (dogs, foxes, wolves and jackals). They have 3 segments and the last one is the gravid segment. They are approximately the half of the entire body (Toparlak and Tüzer, 2002). Infective eggs are taken from contaminated food, fodder and water through oral route by secondary hosts like human, cattle, sheep, goat, buffalo, horse, mules, elephant. The segments are easily disrupted with the help of digestive system enzymes. Oncospheres are located at the organs and tissues like renal, cardia, spleen, cerebrum, bone marrow and particularly at liver and lung (Cadona and Carmena, 2013). The host creates a strong immune response and covers the cyst with a fibrous capsule. This blocks the elimination of the cyst by body. In time, these structures grow and constitute vesicles with full of liquid inside. Thousands of scolex are formed from the germination membrane inside the cyst by asexual reproduction. These cysts

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are described in two ways. They are named 'unilocular' when they are only one cyst and 'multivesicular' when there are cysts independent of each other. While unilocular cysts are prevail in sheep and human, multivesicular cysts are prevail in cattle. The cyst which had protoscolexes was considered fertile. Cyst with fluid only and without protoscolexes was considered sterile (Dziri 2001; Bowmayn and Lynn,1999).

In this study, we present an intensive hydatid cyst case of determined in a cattle brought to the abattoir for slaughtering.

Case

Antemortem examination was applied to 5 old female cattles from "holstein" strain brought to the abattoir for slaughtering and anorexia, recession, cachectic condition, knotty hair and feather were determined; however fever was regular. In addition, medical history told by the breeder revealed that insemination with long-term treatment was applied for 4 times; but none of them provided fertilization.

In postmortem examination, hydatid cyst forms with many different sizes at liver along with acidity in abdominal cavity were detected. It was notable that these cysts covered the liver all around and parenchyma stood as a thin line between cyst walls. There were great numbers of multilocular type cyst structures encircled with fibrous capsules at the cross section. Within most of them, there available transparent cyst liquid inside the thick capsule and no purulence or calcification was observed. Our examinations did not indicate any protoscolex in the cyst liquid. The weight of the liver was 40 kilograms. Live animal had 300 kilograms live weight; therefore weight of the infected organ was 40/300 (1/7.5) (Figure 1,2).

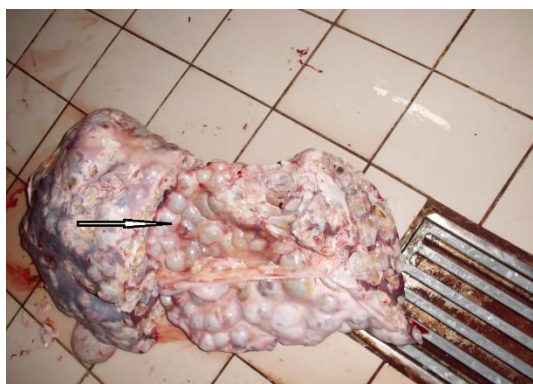


Figure1. Macroscopic appearance of hydatid cyst liver



Figure 2. Hydatid cyst of the cut section of the liver

Discussion

Hydatid cyst is a prevalent and important zoonotic disease for the public health. The disease can be fatal without medical treatment. A heavily infested organ may fail or a cyst may rupture and cause a life-threatening allergic reaction. As the disease is frequent in animals is not accepted as ordinary measures encountered. Therefore, though the disease is eradicated in most of European countries, it intensively goes on threatening the public and animal health in our country (Apt et al., 2000; Aciöz et al., 2008). The disease may also cause loss of output and weight in animals thus it constitutes economic importance (Sarıözkan 2009; Karaman et al., 2015). In this study, in consideration of medical history data told by the owner, we detected that the animal was sent for slaughtering by the reasons of weight loss and infertility.

Hydatid cyst usually forms lesions by clinging the organs like lung and liver which have abundant capillar structures and busy bloodstream. However; it was also determined at the organs like kardia, cerebrum and spleen (Gökçen et al., 2006; Avcıoğlu et al., 2010). This case we present describes an intensive hydatidosis that entirely covers the liver as well.

Although hydatid cysts are quite frequent in animals as secondary hosts, the reason why the cases reported in human are further is that, diagnosis and treatment facilities are more common than the veterinary field. The cases that are usually detected in animals, are revealed in postmortem examination of the slaughtered animals in abattoir and diagnosis and treatment in intravital period are quite difficult. This case we present in this study includes a cow slaughtered in Canbolat Kirazlı Meat Integrated Plant in Yalvaç county of Isparta province and we

report that there is an intensive cystic hydatidosis that could rarely be seen.

In hydatid cyst phenomena, we may come across with some different situations like laceration of cyst wall, abscessed or calcific cyst. Moreover, gall retention based on the advanced ligament proliferation and icteric colour change in liver and near tissues, could also be observed. In this case we present, we did not face with any findings except a slight increase of the periton liquid at the abdominal cavity (Balkaya and Şimşek, 2010).

In hydatid cyst cases, 2-5 cysts are often formed in effected organs. These are one of the few cases that the cysts are increased and cover the entire organs in such big amounts. In this case we present, we have come across with much intensive hydatid cysts with enough amounts to cover the entire liver. According to the medical history data, infertility of the animal was identified with a probable progesterone instability in spite of the fact that hormone analysis is not performed at the abattoir. This is the case, suggesting that the cause profound immune system by inhibiting parasite cysts (Sağlam et al., 2011).

Conclusion

Consequently, hydatid cyst case have an important place for both human and animal health and economic aspect. In veterinary field, utilization from new diagnosis and treatment methods, especially dissemination of preventive medicine by using antiparasitic drugs regularly for both secondary and final hosts, constitutes urgency for eradication of the cyst hydatid disease for the upcoming years. Antiparasitic drugs regularly for both secondary and final hosts.

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