

Symptoms of bovine endocardial hydatidosis

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Received: 13 July 2008 / Accepted: 29 September 2008 / Published online: 18 October 2008
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Abstract In December 2007, a 5-year-old dairy cattle with jugular pulsation, harsh murmur, tooth grinding, weakness and loss of milk yield was referred to the department of clinical sciences, and due to clinical signs, endocarditis was diagnosed tentatively. In the slaughterhouse, a large non gravid hydatid cyst with 4-cm diameter was observed in the right ventricle that contains multiple daughter cysts. Histopathological examination showed some degrees of myocyte atrophy, severe myocardial fibrosis, and presence of numerous giant cells adjacent to the cyst wall. The present case report decides to explain the clinical signs of an unusual hydatid cyst occurrence.

Keywords Hydatid cyst · Heart · Cattle · Endocardium · Myocardium

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Echinococcosis is a serious health problem in some regions of the world, including the Mediterranean basin, Middle Eastern countries, and countries in the Caucasus mountains, where dogs are used to herd grazing animals (Dinkel et al. 1998; Aydin et al. 2001; Kojouri and Moshtaghi 2008). The life cycle of its agent involves two hosts: one is definitive and the other is intermediate that human act as the intermediate host (Gottstein 1992; Eckert and Thompson 1998). The adult tapeworm of domestic strain usually is found in dogs while sheep are the usual hosts of larval stages. The cysts may be asymptomatic but may also present with a range of problems of varying severity (Kammerer and Schantz 1997). The most commonly affected organ is the liver (55–70%) and after that, the lung (18–35%); but, in about 5–13% of cases, both organs can be affected simultaneously (Thompson 1995).

Two separate ways have been explained for reaching the hexacanthous embryo to the human myocardium. The first one is through the coronary arteries and the other one is possible after rupture of a primitive hydatid cyst in the pericardium. The cardiopericardial location represents only 2.0% to 2.5% of the hydatid locations, and these figures vary from one series to another (Thameur et al. 2001).

In December 2007, a 5-year-old dairy cattle (mix breed) with jugular pulsation, harsh murmur, tooth grinding, weakness, and loss of milk yield was referred to the department of clinical sciences, and due to clinical signs, endocarditis was diagnosed tentatively. The owner did not allow us to make final diagnosis via echocardiography or other complimentary tests and persisted to immolate the animal before excess of weight loss was achieved. In the slaughterhouse, a rare condition of hydatidosis was observed.

In gross examination, a large non gravid hydatid cyst with 4-cm diameter that contains multiple daughter cysts indwelled the right ventricle, and some degrees of fibrin

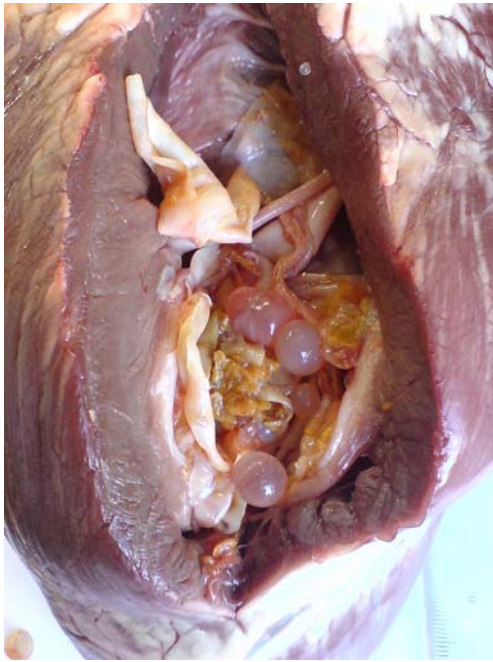


Fig. 1 The large hydatid cyst in right ventricle (the original cyst wall was cut)

clots and fibrous tissues were observed around and inside the cyst (Fig. 1).

Histopathological examination with blue Masson's trichrome staining showed some degrees of myocyte atrophy, severe myocardial fibrosis, and a presence of numerous giant cells adjacent to the cyst wall (Fig. 2).

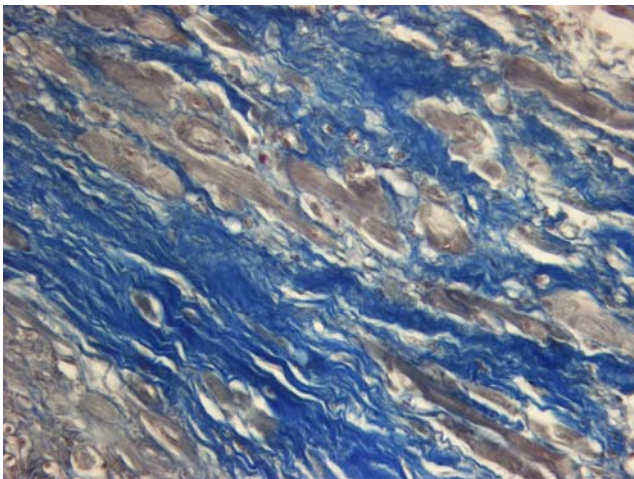


Fig. 2 Myocyte atrophy and severe myocardial fibrosis adjacent to the cyst wall (blue Masson's trichrome staining, 40×10 magnification)

The present case decides to report the clinical signs of endocardial hydatidosis (positive jugular pulsation, harsh murmur, tooth grinding, weakness, and loss of milk yield). Many cases of hydatidosis do not show symptoms even in advanced ages, but if such cases show the symptoms, they will be related to the local effects of hydatidosis. A total of 77% of large cysts and 50% of medium-sized cysts in human are symptomatic. It is, therefore, legitimate to state that the larger or more numerous the cysts are covering a large surface of the myocardium; the most important is their effect on the functioning of the heart and, thereby, the severity of the symptoms and signs. Some particular locations are normally symptomatic. Cysts can lie (1) near the ventricular and atrial openings, with effects similar to those produced by a valvular disease (like the present case; Ergin Eren et al. 1989) or (2) on the interventricular septum, producing conduction disorders, which may lead to heart block (Di Bello et al. 1969).

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