Casi clinici

Case reports

Unsuspected giant hydatid cyst of the liver in an 87-year-old woman

Cisti idatidea epatica gigante insospettata in una donna di 87 anni

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INTRODUCTION

Hydatidosis is a very important endemic zoonosis, caused by larval forms of *Echinococcus* (*E. granulosus*, *E. multiloculares*, *E. oligarthrus*, *E. vogeli*).

In Africa, Argentine, Australia, Central Asia, Chile, Italy, New Zealand, Peru, Uruguay, southern Brazil, and western China, the main agent is *E. granulosus*, often found in cattle, goat, and sheep-raising areas [1-7].

Dogs are the usual definitive hosts, which contaminate both the environment and intermediate hosts.

Human beings are accidentally infected by ingestion of contaminated food or water, or through close contact with domesticated dogs [1-3, 6, 7].

Parasite embryos gain portal circulation by mesenteric veins, and are distributed to liver and other sites [8, 9].

New larvae give origin to the cysts, with an external membrane and an inner layer where daughter cysts are found [3-7]. Liver and lungs are the most frequently involved organs.

Liver cysts often grow unsuspected for decades, being casually seen during imaging studies, but can cause abdominal pain, bile duct compression, and palpable masses [3-7, 10].

Difficulties in clinical diagnosis are common, and increase if hydatidosis develops in uncommon sites, or in individuals living in non-endemic regions [1-4, 9].

CASE REPORT

In November 2008, an 87-year-old woman with longstanding disorientation was admitted due to productive cough and cyanosis after food brochoaspiration. Medical antecedents: arterial hypertension, cerebral ischemia, and Parkinson's disease. Three decades ago, she visited a sheep-raising farm in a Brazilian southern region. Physical examination: disorientation, BMI: 19.7 kg/m^2, hepatomegaly, and diffuse lung crackles and wheezes. Routine laboratory data are showed in Table 1. Tumour markers (alpha-fetoprotein, carcinoembryonic antigen, and CA 19-9) were unremarkable. Skull computed tomography (CT) showed sequels in the parietal-occipital area, and infarction in the basal ganglia. Thorax CT revealed pleural effusion, lung segmental consolidation, and hepatic calcified changes. Abdominal ultrasonography study showed a huge complex mass in the right hepatic lobe (matrix of solid appearance, cystic areas and ring-like calcifications). Contrasted abdominal TC showed a giant loculated cystic-solid mass with peripheral calcifications and daughter cysts (Figure 1). Cultures of blood and urine, and stool microscopy search for ova or cysts were negative. With better clinical and nutritional status following conservative treatment, she returned to home care; and after two years of follow-up, her health condition has been stable.

DISCUSSION

Differential diagnosis of solitary hepatic cystic lesions include: cystic tumours (bile cysts, cystadenoma, cystadenocarcinoma, ciliated cyst, cystic metastasis, cholangiocarcinoma, hamartoma, liver carcinoma, and haemangioma); and non-tumour cystic lesions (abscess, pseudo

Table 1 - Laboratory data of an 87-year-old female with a giant hepatic cystic change

Parameters	*Nov 15 2008*	*Nov 21 2008*	*Dec 3 2008*	*Dec 24 2008*	*Jan 4 2009*	*Oct 24 2009*
Haemoglobin	99 g/L	106 g/L	92 g/L	110 g/L	112 g/L	110 g/L
Haematocrit	29.1%	30.9%	27.5%	32.2%	32.9%	32.5%
Total WBC	$14.2x10^9$/L	$15.7x10^9$/L	$7.7x10^9$/L	$6.7x10^9$/L	$9.3x10^9$/L	$6.8x10^9$/L
WBC %	8, 71, 0, 0, 20, 1	4, 89, 0, 0, 6, 1	4, 63, 4, 0, 22, 7	6, 70, 1, 0, 22, 1	0, 62, 0, 0, 34, 4	6, 54, 2, 0, 34, 4
Platelets	$320x10^9$/L	$279x10^9$/L	$599x10^9$/L	$476x10^9$/L	$419x10^9$/L	$383x10^9$/L
Glucose	94 mg/dL	103 mg/dL	122 mg/dL	Nd	96 mg/dL	64 mg/dL
Urea	33.3 mg/dL	32.8 mg/dL	18.3 mg/dL	32.2 mg/dL	35.4 mg/dL	40.9 mg/dL
Creatinine	0.5 mg/dL	0.4 mg/dL	0.4 mg/dL	0.5 mg/dL	0.5 mg/dL	0.6 mg/dL
Na	139 mEq/L	144 mEq/L	135 mEq/L	122 mEq/L	128 mEq/L	132 mEq/L
K	3.9 mEq/L	3.7 mEq/L	3.6 mEq/L	4.3 mEq/L	3.4 mEq/L	3.7 mEq/L
Ca (mmol/L)	1.26	1.24	1.20	1.22	1.30	Nd
Mg	2.1 mEq/L	2.6 mEq/L	1.9 mEq/L	1.6 mEq/L	1.6 mEq/L	1.8 mEq/L
Prot. time	15.8" (70%)	14.3" (79%)	Nd	Nd	Nd	14.6" (76%)
ATTP	43.2"	32.5"	Nd	Nd	Nd	Nd
AST	17.6 U/L	44.5 U/L	18.5 U/L	14.2 U/L	31.0 U/L	26.4 U/L
ALT	11.3 U/L	22.6 U/L	12.2 U/L	11.1 U/L	12.0 U/L	28.5 U/L
AP	Nd	63.0 U/L	59.1 U/L	69.4 U/L	Nd	Nd
GGT	Nd	48.0 U/L	52.9 U/L	53.0 U/L	Nd	Nd
Albumin	2.9 g/dL	2.8 g/dL	2.5 g/dL	3.7 g/dL	Nd	3.7 g/dL
Globulins	1.6 g/dL	2.1 g/dL	2.5 g/dL	2.7 g/dL	Nd	3.0 g/dL
Bilirubin	0.45 mg/dL	0.58 mg/dL	0.35 mg/dL	Nd	Nd	0.5 mg/dL
Cholesterol	Nd	108 mg/dL	109 mg/dL	149 mg/dL	Nd	Nd
Triglicerides	Nd	36 mg/dL	36 mg/dL	59 mg/dL	Nd	Nd
LDL	Nd	72 mg/dL	69 mg/dL	93 mg/dL	Nd	Nd
HDL	Nd	29 mg/dL	33 mg/dL	44 mg/dL	Nd	Nd
VLDL	Nd	7 mg/dL	7 mg/dL	12 mg/dL	Nd	Nd
ESR	Nd	51 mm/h	55 mm/h	Nd	Nd	76 mm/h
CRP	Nd	2.7 mg/dL	1.9 mg/dL	Nd	Nd	5.8 mg/dL
Ferritin	Nd	335.0 ng/mL	Nd	230.0 ng/mL	Nd	134.5 ng/mL

AP: alkaline phosphatase; Prot. time: prothrombin time; WBC: white blood cells; WBC %: sequence of the WBC percent: bands, segmented, eosinophils, basophils, lymphocytes, and monocytes; CRP: C-reactive protein; Nd: not done.

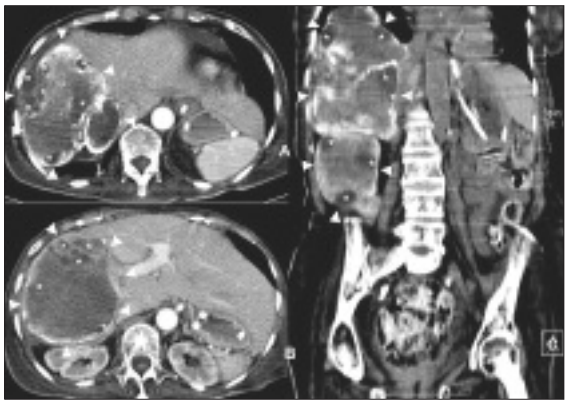

Figure 1 - Abdominal CT revealing a giant solid-cystic loculated mass in the liver (arrowheads), characterized by central matrix associated with numerous peripheral daughter-cysts (asterisks), and gross calcifications in the cyst capsule.

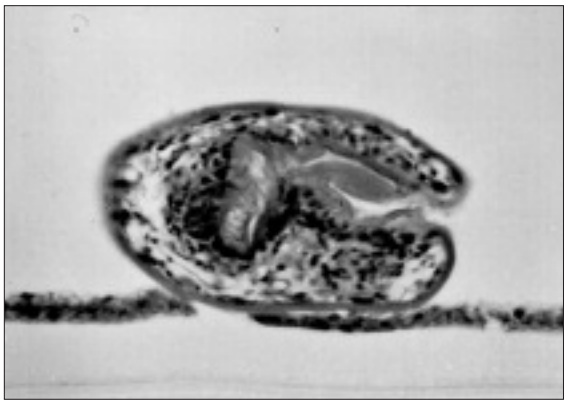

Figure 2 - Photomicrography of a protoscolex of *E. granulosus* appearing fixed on the germinative membrane.

cyst, hematoma, aneurism, and hydatid cyst) [4, 5, 11]. This giant hepatic cyst developed unsuspected, in part due to the cognitive impairment secondary to her brain vascular disease [7]. The diagnosis was based on epidemiology data (incidental contact with dogs during a visit to a sheep-raising farm) and characteristic images of hepatic hydatid cyst, in addition to positive IgG antibodies anti-echinococcus (indirect immune fluorescence: 1/320) [1-5, 7]. The diagnosis of hydatid cyst was established by histopathology (Figure 2), and hooks with sizes and shapes characteristic of *E. granulosus* were observed in the protoscolices. She received albendazole (15 mg/kg/day) in cycles of continuous treatment with no interval [1, 2, 4, 12]. More invasive procedures were not done because of huge volume of the abdominal mass, and the risk of a large open surgery for an unfit elderly [1, 5, 12]. Brasília-DF is not endemic area of hydatid disease, and reported cases are not autochthonous. High level of awareness is needed to diagnose hydatidosis in a non endemic area [9]. A major concern in this fragile woman was about malignancy involving the liver, or hepatic tumor mimicking hydatidosis [13]. Images and serology data were highly indicative, but histopathology study was done to inequivocally rule out malignan tumors [4].

Key words: echinococcosis, hydatidosis, hydatid hepatic cyst.

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SUMMARY

Hydatid cystic disease from *Echinococcus granulosus* is described in some Brazilian as well as Italian areas. Liver hydatidosis is the most common presentation, which may evolve without symptoms. The authors describe an 87-year-old woman with an unsuspected giant hydatid cyst of the liver and emphasize the diagnostic challenges, mainly involving patients from non-endemic regions.

RIASSUNTO

L'iditadosi da Echinococcus granulosus è descritta in alcuni regioni del Brasile nonché in Italia. La localizzazione epatica è la più frequente e può evolvere senza sintomi. Gli autori descrivono il caso clinico di una donna di 87 anni con cisti idatidea epatica gigante, insospettata, e pongono l'accento sulla sfida diagnostica posta soprattutto da pazienti provenienti da aree non endemiche.

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