

ARTÍCULO ORIGINAL

Human hydatidosis in Mar del Plata, Buenos Aires Province, Argentina, (1992-1995): A preliminary study

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ABSTRACT

To assess the health risk associated with *Echinococcus granulosus*, a retrospective survey of hydatid infection was conducted between 1992 and 1995 by examining records of patients with hydatidosis from two hospitals of Mar del Plata City, General Pueyrredón District, Buenos Aires Province, Argentina. Eighty five patients (34 males and 51 females) with confirm hydatidosis were registered. The average age was 48.2 years. Employee was the occupation that present the greatest percentage of cases (16.5%). Ultrasonography (US) was the most frequently used diagnostic method (28.2%). Infection in the liver occurred most commonly (58.8% of the 85 cases). Of the 85 patients, 74 (87.1%) received surgery; 12 received medical treatment with albendazole. The results obtained in this work from two hospitals show a problematic situation with respect to hydatid disease in Mar del Plata City. To have a good view of infection prevalence in Mar del Plata City, more retrospective survey data on human hydatidosis must be done.

Keys words: Hydatidosis, Epidemiology, Survey, Zoonosis, Argentina.

INTRODUCTION

Hydatid disease is a zoonotic infection of humans caused by *Echinococcus granulosus* and an important health problem in many areas of the world, particularly among populations that practice sheep husbandry.¹⁻³ It occurs in most countries of South America, sporadically in

Central America and in apparently absent from the Caribbean countries. It is a public health and economic problem in the southern part of South America including Argentina, Chile, Uruguay, Brazil (Rio Grande do Sul) and mountainous regions of Peru and Bolivia.⁴

In Argentina, hydatid disease is spread reaching the highest endemic levels in the

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patagonic region and in the provinces of Buenos Aires and Corrientes. In Buenos Aires Province, a total of 471 new cases were found in the period 1983/87 (annual incidence rate: 0.8 per 100,000).⁵

Humans become infected by the ingestion of eggs passed in faeces of dogs. Oncospheres released from the eggs penetrate the intestinal mucosa and, via the portal system, lodge in the liver, lungs, muscle or other organs, where the hydatid cysts form.⁶ Although most transmission occurs in rural areas, urban cycles have been identified; numerous dogs occur in many urban areas and often have access to viscera disposed of carelessly from slaughterhouses or from animals slaughtered at private homes.³

The hydatid disease could be an important problem of public health in Mar del Plata City, General Pueyrredón District. As it does not exist antecedents about this disease in the southeast of Buenos Aires Province, this work tries to contribute to the knowledge of the situation of the human hydatid disease in that region.

To assess the health risk associated with *E. granulosus*, a retrospective survey of hydatid infection was conducted between 1992 and 1995 by examining records of patients with hydatidosis from two hospitals of Mar del Plata City, General Pueyrredón District, Buenos Aires Province, Argentina.

MATERIALS AND METHODS

The study area belongs to Mar del Plata City. Mar del Plata is the principal city of the General Pueyrredón District and it is located over the Argentine Sea in the southeast of Buenos Aires Province, Argentina (38°00'S / 57°33'W).

The study was carried out in two hospitals of Mar del Plata City: Hospital Interzonal General de Agudos "Dr. Oscar Alende" and Hospital Privado de Comunidad. Both centers offer medical attention not only to residents of Mar del Plata City but also to a great number of inhabitants of different districts in the southeast of Buenos Aires Province.

Clinical records of all patients with confirmed hydatidosis between 1992 and 1995

were analyzed. A data file was completed for each patient containing personal information, antecedents, diagnostic methods and the amount of cysts present. Epi Info (version 6, CDC Atlanta, USA) was used to analyze the information.

RESULTS

Eighty five patients (34 males and 51 females) with confirm hydatidosis were treated between 1992 and 1995 in the analysed hospitals.

Age-group distribution of the patients is showed in Figure 1. The ages ranged between 17 and 82 with an average of 48.2 years.

The distribution of the cases according to occupation is shown in Table 1.

Employee was the occupation that present the greatest percentage of cases (16.5%). There were a high percent of patients (52.9%) whose occupation was unknown.

The distribution of the 85 patients according to place of residence (urban, rural, outskirts, indeterminate area) can be observed in Table 2.

Ultrasonography (US) was the most frequently used diagnostic method (28.2%) (Table 3); in the second place was the combination between ultrasonography (US) and computed tomography (CT) (27.1%).

Infection in the liver occurred most commonly (58.8% of the 85 cases), 14 cases involved infections in the lungs (16.5%) and 7 had infection in both liver and lungs (8.2%) (Table 4). With respect to the amount of cysts,

Table 1. Distribution of cases according to occupation. The category employee includes several occupations

Occupation	N	%
Unknown	45	52.9
Employee	14	16.5
Homemaker	13	15.3
Retired	7	8.2
Rural worker	4	4.7
Student	2	2.4
Total	85	100

Table 2. Distribution of cases according patient's place of residence

Residence	Frecuencia	%
Urban	66	77.6
Rural	8	9.4
Outskirts	6	7.1
Indeterminate area	5	5.9
Total	85	100

Table 3. Diagnostic techniques. US: ultrasonography, CT: computed tomography, RX: X Rays, OTHER: magnetic resonance, X Rays, endoscopy, Arco5 or indirect hemagglutination

Type	Diagnostic	Frequency	%
US		24	28.2
CT + US		23	27.1
CT - US - OTHER		15	17.6
CT		10	11.8
CT - OTHER		7	8.2
US - OTHER		4	4.7
RX		2	2.4
Total		85	100

57 patients (67.1%) present only one cyst, 18 (21.2%) present two cysts, 4 patients (4.7%) three cysts and 6 patients (7%) present multiple cysts.

Of the 85 patients, 74 (87.1%) received surgery. Of the 74 patients who received surgery, 2 died due to postoperative complications.

Of the patients who received surgery, only 12 received medical treatment with albendazole: 6 before and 6 after the surgery.

DISCUSSION

Retrospective survey data on human hydatidosis cannot give an accurate picture of the prevalence of infection. A number of cases are not seen in hospitals because the infection is asymptomatic, or does not require surgical intervention, and mistakes in coding may occur. However, these data remain useful indication of infection prevalence.⁶

The results obtained in this work from two

Table 4. Distribution of the 72 cases of hydatidosis according the localization of the cysts. Other: spleen, heart, abdominal cavity, suprarenal, gallbladder, pancreas, colon, groin

Localization	Frequency	%
Liver	50	58.8
Lung	14	16.5
Liver - Lung	7	8.2
Liver - Other	6	7.1
Lung - Other	3	3.5
Spleen	2	2.3
Bone	1	1.2
Kidney	1	1.2
Peritoneum	1	1.2
Total	85	100

hospitals show a problematic situation with respect to hydatid disease in Mar del Plata City. The reason for human hydatidosis not being perceived as a problem in Mar del Plata City can be attributed to under-reporting of this notifiable disease. Besides, there were not antecedents of retrospective surveys of hydatid infection in this area.

With respect to the age of the patients, in our study all age groups are represented, excepting the younger group (between 0 and 14 years). It can be stated that hydatidosis is a disease that affect people of any age group, but specially persons in the labour market (between 20 and 60 years).^{7,8} This also, could be contributing to the idea that hydatidosis is a long term developing disease that is acquired at the first years of life and is diagnosed belatedly.

The distribution of patients by occupation reveals that employee (the category employee includes several occupations) present the greatest percentage of cases (16.5%) and that there were a high percent of patients (52.9%) whose occupation was unknown. A possible explanation for this situation is that the clinical records lacked of a complete anamnesis of the patients. In this disease it is important to know the activity of the patient, but as the hydatidosis is a slow developing disease, sometimes the actual occupation of the patient is not a good indicator because patients may have performed activities at high risk of infection in the past.⁸ In the distribution of hydatid disease according to patients' place of residence a great amount

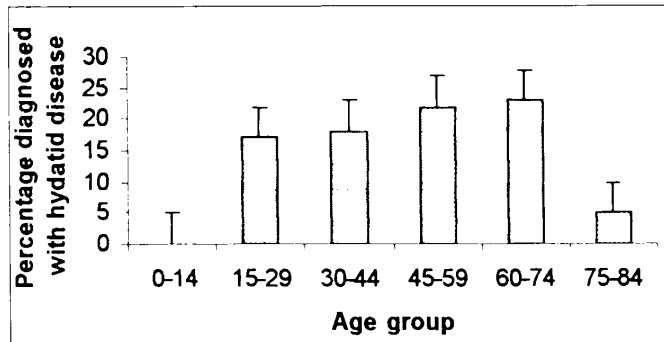


Figure 1. Age group distribution of hydatid disease diagnosed between 1992 and 1995 in two hospitals of Mar del Plata City, Argentina.

of patients residing in urban areas was observed. It must be considered that the origin of the cases it is based on the declared address by the patient, and in many occasions the real address is altered to have access to some medical centers.⁹ Reiterating the concept about the slow development of hydatid disease, it is important not only to have the present place of residence of patients but also the place where they grew up as well as visits or stays in rural areas.

The role of both US and CT in establishing the diagnosis of cystic lesions including cystic hydatid disease is already well established in clinical practice.¹²⁻¹⁴ The results obtained at this work coincides with this considering that all the cases were confirmed by other techniques.

Hepatic location of the cysts was the most frequent which coincides with the world bibliography¹²⁻¹⁴. Although, other studies have identified the lung as the most frequent location.^{8,15,16} In this study the lung was the second organ most frequently affected.

Surgery still remains the mainstay of radical treatment for cystic hydatidosis. It carries a high risk of complications, death and lengthy and costly hospitalization. In this study, from the 85 patients diagnosed, 74 (87.1%) received surgery.

The analysis of the results of this study show the relative limited use of the pre and post-operative chemotherapy in Mar del Plata City. Effective chemotherapy of patients with hydatid infection would substantially reduce the

cost of treatment.⁶ The most promising drug studied was albendazole.¹⁷ The most appropriate use of albendazole may be as an adjunct to surgery. Preoperative treatment with albendazole has been reported to soften the cysts, thus reducing intracystic pressure and simplifying their removal.¹⁸ Rupture of the cysts and spilling of protoescolices into the body cavity during surgery is a constant risk, but an immediate postoperative course of albendazole will greatly reduce the chance of new cysts developing.¹⁹

To have a good view of infection prevalence in Mar del Plata City, more retrospective survey data on human hydatidosis must be done. Besides, a survey of human hydatidosis by means of ultrasonography and immunodiagnosis can also be used as a sensible tool to detect the presence of asymptomatic hydatid carriers.

RESUMEN

El objetivo de este trabajo fue realizar una encuesta retrospectiva para conocer el alcance de la infección hidatídica durante el período 1992-1995 en dos hospitales de la ciudad de Mar del Plata, Provincia de Buenos Aires, Argentina.

Se registraron durante ese período 85 pacientes (34 mujeres y 51 hombres) con hidatidosis. El promedio de edad fue 48,2 años. La ocupación que presentó el mayor número de casos fue la de empleado (16,5%). El método

de diagnóstico más utilizado fue la ecografía (28,2%). La localización hepática de los quistes fue la más frecuente (58,8% de los 85 casos). De los 85 pacientes, 74 (87,1%) fueron operados. Doce pacientes recibieron tratamiento médico con albendazole.

Los resultados obtenidos en este trabajo en dos hospitales muestran una situación problemática con respecto a la enfermedad hidatídica en la ciudad de Mar del Plata. Es necesario realizar más estudios retrospectivos para establecer si esta zoonosis es una endemia regional.

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