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Research Article

Therapeutic Actualities of Liver Hydatid Cysts in Children

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Abstract

Hydatid echinococcosis or hydatidosis is a zoonosis caused by the larval stage of a cestode echinococcus granulosus. It is a complex zoonosis affecting a wide range of animals. It accidentally affects the humans as an intermediate host in the cycle of helminthiasis. This parasite is very widespread in the world, it is endemic in Algeria, notifiable disease. Its frequency and its economic impact represent a real public health problem. Laparoscopic surgery is the current alternative in the treatment of abdomino-pelvic hydatid cysts in children from infancy to adolescence. This work is a retrospective study that went on from March 2015 to September 2017 during which we studied the different methods of management of hydatid cysts of the liver in children of variable age ranging from simple medical treatment to Surgery either conventional or mostly by laparoscopic surgery. We report the management of these patients by the various procedures already cited.

Keywords: *Hydatidosis; Echinococcosis; Liver Hydatid Cysts*

Introduction

Hydatid disease (Echinococcosis) is an infection caused in humans by the larval stage of the Echinococcus genus which produce unilocular or poly cystic lesions and are prevalent in areas where livestock is raised in association with dogs. It is a complex zoonosis affecting a wide range of animals. It accidentally affects the humans as an intermediate host in the cycle of helminthiasis. This parasite is very widespread in the world, it is endemic in Algeria, notifiable disease. Its frequency and its economic impact represent a real public health problem. Hydatid disease must be treated once it is diagnosed. Laparoscopic surgery is the current alternative in the treatment of abdomino-pelvic hydatid cysts in children from infancy to adolescence.

Material and Methods

This study comprised of 23 patients (14 girls, 09 boys, median age: 8 years, range: 04 - 16 years) who diagnosed to have liver hydatid cyst treated during the period of March 2015 to September 2017 at our Hospital. Of these cases: 20 patients were from a rural area, 15 had contact with the dogs. The circumstances of discovery were variable dominated by abdominal pain which was the most frequent reason for consultation (Table 1). Among our patients, there were some who had other associated localization of the hydatid cyst (lung, spleen, paravesical).

Sex	Area	Contact with dogs	Circumstances of discovery	Other associated locations
Female: 14 Male: 09	Rural: 20 Urban: 03	Yes: 15 No: 08	Abdominal pain: 14 Fortuitous discovery: 04 Investigation of HCL: 03 Tumefaction: 01 Skin lash: 01	Lung: 06 Spleen: 03 Paravesical: 01 Left Ventricle 01

Table 1

All patients had chest x-ray, abdominal sonography, hydatid serology. Our patients have benefited from Albendazole therapy whose, pre- and postoperative duration, depends on the volume, number, risk of rupture and other localization of the hydatid cyst with check of blood count and hepatic analysis.

Results

17 patients were treated by laparoscopic surgery for hydatid disease of the liver, 05 cases were treated by open surgery, 01case was converted to open operation. Treatment with Albendazole was reserved to disseminated hydatidose and large cysts with risk of rupture.

Intraoperative findings (Table 2):

- The size of the cyst ranged between 06 and 12 cm.
- The most observed site: segment 4.
- The type CE1 (OMS classification) was the most frequent type.

Size	Type	Site	Cyst-biliary communication
Minimum: 06 cm Maximum: 12 cm	CE1: 18 case CE 2: 02 CE 4: 02 CE 5: 01	Segment 1: 01 case Segment 2: 06 Segment 3: 04 Segment 4: 09 Segment 5: 04 Segment 6: 05 Segment 7: 04 Segment 8: 05	02 cases

Table 2

We proceed to a PAIR we opened the cyst and the proligerous membrane was removed and put in a sack then we resected the dome. We found 02 cases of Cyst-biliary communication which we drained. The average operating time: 150 mn.

Discussion

Hydatidosis is the commonest human larval cestodiasis. The disease is endemic in Algeria and many other areas of the world. The mainstay of treatment of hepatic hydatid disease is surgery. The laparoscopic approach to the hydatid cyst emerged in 1993 as an alternative to the classic surgical treatment. Initially, open surgery was the only accepted treatment for this disease but currently the possibilities for the treatment of hepatic echinococcosis have increased considerably in recent years (including medical treatment, PAIR, or a combination of these two),surgery remains the mainstay for healing of hydatid disease.

The laparoscopic helps to inspect the cyst cavity, to make sure that no daughter cysts or laminated membranes were overlooked and to detect small bile opening. Laparoscopic approach gives good cosmetic results, shorter duration, rapid recovery and allows to treat other abdominal cysts. This was the case of our 3 patients with spleen cyst. The conversion rate in our series with 17 patients was 5%. Conventional surgical treatment has been reserved for cases where there was contraindication for laparoscopic treatment, like the case of our patient who was operated by the team of cardiovascular surgery for the left ventricle cyst.

Albendazole is safe and effective adjuvant therapy in the management of hepatic hydatidosis in addition to the standard surgical treatment. Preoperative use of albendazole for at least one week decreases significantly the chances of cyst viability at the time of surgery. Postoperative use of albendazole for two to six months also decreases the chances of recurrence of cysts. It is also used to treat inoperable and disseminated cases [1-5].

Conclusion

Echinococcosis or hydatidosis or hydatid disease is the most frequent cause of liver cysts in the world. Antiparasitic chemotherapy with mebendazole or albendazole alone is not as effective as treatment combined with surgery. Laparoscopy represents an excellent approach for treating hydatid cyst of the liver in children but needs a perfect experience of the surgical team. The essential treatment, however, remains the prophylaxis.

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