OPEN ACCESS

Saudi Journal of Medical and Pharmaceutical Sciences
Abbreviated Key Title: Saudi J Med Pharm Sci
ISSN 2413-4929 (Print) | ISSN 2413-4910 (Online)
Scholars Middle East Publishers, Dubai, United Arab Emirates
Journal homepage: https://saudijournals.com

Case Report **Gastroenterology**

Endoscopic Treatment of Hydatid Bilio-Bronchial Fistula: Case Report

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DOI: 10.36348/sjmps.2022.v08i04.009 | **Received:** 15.03.2022 | **Accepted:** 19.04.2022 | **Published:** 25.04.2022

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Abstract

Hydatid bilio-bronchial fistula (HBBF) is a rare complication but serious because it is responsible for lesions at three levels: abdominal, biliary, and thoracic, with high perioperative mortality. We reported the case of an HBBF, who had surgical resection of the Hydatid Cyst of the Liver that was complicated by HBBF which was managed by an endoscopic sphincterotomy with the placement of a biliary stent with a good evolution and healing of the bilio-bronchial fistula. Through this case and a review of the literature, endoscopic seems to be an effective and safe treatment option for postoperative Hydatid bilio-bronchial fistula.

Keywords: Bilio-bronchial fistula, Hydatid cyst, ERCP.

INTRODUCTION

Bilio-bronchial fistula (BBF) is a condition defined by abnormal communication between the bile ducts and the bronchial tree. It is a rare but serious complication with high perioperative mortality [1]. In developed countries, biliary-bronchial fistula can be a complication of several etiologies such as post-traumatic, iatrogenic, post-hepatic surgery, or congenital origin. In Morocco, hydatid origin is by far the most common cause, especially in endemic regions [2]. The mortality rate can reach 50%. The prognosis associated with biliary lesions has always been known to be very wrong until the inclusion of endoscopic retrograde cholangiopancreatography (ERCP) in the therapeutic arsenal and the improvement of patient preparation before the surgical procedure [6]. We reported a case of BBF of hydatid origin who had a biliary sphincterotomy with a biliary prosthesis placement during ERCP after surgical resection of the protruding dome of a hydatid cyst of the liver.

CASE REPORT

A 69-year-old female, with a history of a Liver Hydatid Cyst (LHC) operation 10 years ago, cholecystectomy for gallbladder stones 5 years ago, was admitted to the surgery department for hepatic colic. The clinical examination found a patient in good general condition with a strictly normal biological assessment. Abdominal computed tomography revealed the presence of a voluminous hepatic liquid mass of VII segment of the liver with a protruding dome measuring 97*57 mm. (Figure 1). The diagnosis of recurrence of liver hydatid cyst type IV was retained and the patient underwent surgical resection of the protruding dome with cysto-diaphragmatic disconnection respecting the integrity of the diaphragm with intraoperative visualization of a small-caliber cysto-biliary fistula. The evolution was marked by the occurrence in the immediate postoperative period of biliptysis, deterioration of the general condition, and respiratory distress for which the patient was admitted to intensive care. The chest X-ray showed a low-abundance right pleurisy and a biliary fistula with a drain bringing back 150 ml of bile. The cross-sectional imaging showed at the level of VII segment a residual cavity measuring 60*53*65 mm, a cysto-biliary fistula with individualization of a biliary-bronchial fistula between the VII hepatic segment and the posterior basal pulmonary segment of 9 mm. The common bile duct (CBD) measured 8 mm in diameter and was the site of two stones at the lower part of the CBD (Figure 2). The biological assessment revealed an inflammatory syndrome with WBC at 28930, PNN at 26150, and CRP at 134. The patient was put on antibiotic therapy and after respiratory stabilization, she was transferred to our gastroenterology department for endoscopic biliary drainage. An ERCP was performed and showed a CBD at 8mm with a partial opacification of the cystic cavity, associated with leakage of the contrast product above the diaphragm and at the level of the left segment. A biliary sphincterotomy was performed allowing the

extraction of several stones and debris of hydatid membranes with pus issue and a plastic stent was put in place. On per-ERCP, The patient presented a bilioptysis that came out by intubation probe for which the patient was admitted to intensive care, but this time the evolution was very favorable with the resolve of bilioptysis and the inflammatory syndrome at 48 hours.

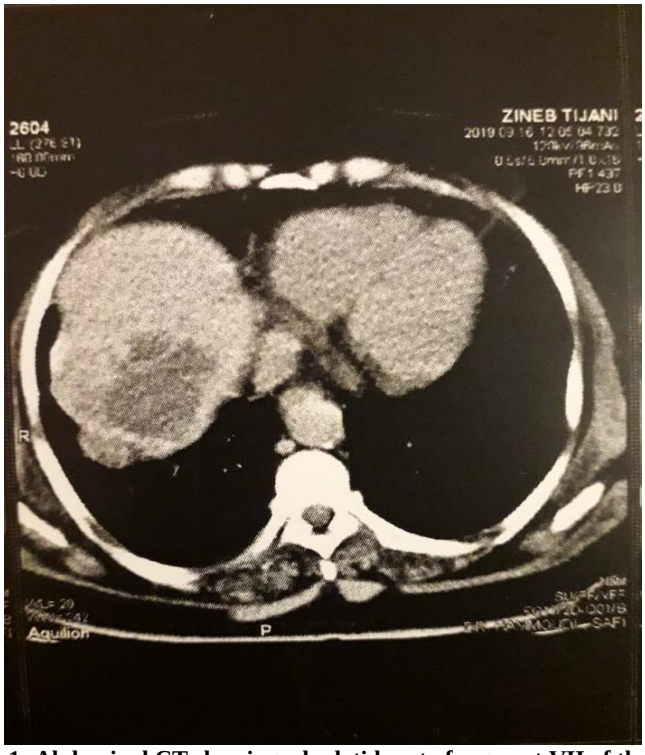

Figure 1: Abdominal CT showing a hydatid cyst of segment VII of the Liver

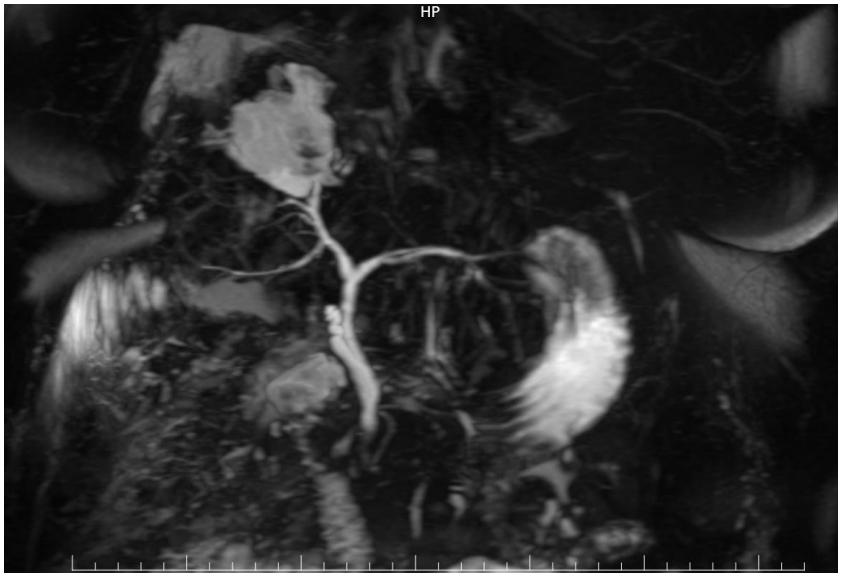

Figure 1: MRI showing cysto-biliary fistula between hydatid cyst residual cavity of segment VII of the Liver and posterior biliary duct

DISCUSSION

The frequency of HBBFs varies greatly depending on the series, between 2.5 and 16% of all HCLs [3]. Clinically, biliptysis or bilious vomit, is the main symptom of bilio-bronchial fistulization. Its frequency varies according to the series; it is seen between 12.5 and 77.8% of cases [4]. Hepatobiliary clinical signs are not specific to this complication, in particular jaundice. The chest X-ray generally shows an elevation of the right diaphragmatic cupola, fluid levels, or pleural effusion. Abdominal ultrasound makes it possible to find the HCL, to specify its seat, its size, and its vascular and biliary contacts, and makes it possible in certain cases to show the transdiaphragmatic fistula. It is of great interest in the diagnosis of HBBF, by

visualizing the solution of diaphragmatic continuity as well as the origin, the course, the termination of the fistula, the search for a hepatic collection, and possible dilation of the bile ducts. CT allows a more precise study of hepatic, pleuropulmonary lesions, and even diaphragmatic breach. The goal of treating BBF is to cure the fistula track and treat its cause. It requires surgical treatment, with preoperative resuscitation [7, 8]. The first step is preparation for the intervention given the nutritional and respiratory status of the patients. It must include respiratory physiotherapy, well-adapted antibiotic therapy, blood transfusion in case of anemia, and hydro-electrolyte and caloric rebalancing.

Kabiri H *et al*., [5] proposed preoperative endoscopic sphincterotomy for drainage of highly productive biliary fistulas avoiding corrosive contact of bile with the lung and reducing the rate of postoperative complications. In a series by Lakranbi M et al [9], ERCP with sphincterotomy was performed as a first-line treatment and allowed the bilio-bronchial fistula to heal in 60% of cases. Surgical intervention was performed in 40% of cases with the persistence of FBB. in our case the HBBF occurred postoperatively and was completely cured by the insertion of a plastic stent.

CONCLUSION

ERCP with stenting represents an emergent therapeutic method in the biliary complications of hepatic echinococcosis, especially in the setting of biliary or bronchial fistula. It is an efficient treatment that has already shown its effectiveness and safety. It shortens the postoperative stay and avoids reoperation, which is often difficult and hemorrhagic [10].

Funding: None

Declaration of conflicting interests: None

REFERENCES

1. Atoini, F., Ouarssani, A., Serraj, M., Ouadnouni, Y., & Smahi, M. (2012). The Results of Conservative Approaches for Pulmonary Hydatid Cysts. *Journal of Medical and Surgical Research–JMSR-2017*, 410-416.
2. El Malki, H. O., Souadka, A., Serji, B., Benkabbou, A., Mohsine, R., Ifrine, L., & Belkouchi, A. (2014). Radical surgery for liver hydatid cyst. *Journal of Medical and Surgical Research JMSR*, *1*(2), 30-36.
3. Kabiri, H., Chafik, A., Al Aziz, S., El Maslout, A., & Benosman, A. (2000, September). Traitement des fistules biliobronchiques et bilio-pleuro-bronchiques d'origine hydatique par thoracotomie. In *Annales de chirurgie* (Vol. 125, No. 7, pp. 654-659). Elsevier Masson.
4. Kabiri, E. H., Caidi, M., Al Aziz, S., El Maslout, A., & Benosman, A. (2003). Surgical treatment of hydatidothorax series of 79 cases. *Acta Chirurgica Belgica*, *103*(4), 401-404.
5. Kabiri, E. H., El Maslout, A., & Benosman, A. (2001). Thoracic rupture of hepatic hydatidosis (123 cases). *The Annals of thoracic surgery*, *72*(6), 1883-1886.
6. Azhar, S. (2021). Le Kyste Hydatique du Foie Fistulisé dans les voies biliaires. Thèse de Medecine generale Rabat.
7. Özaslan, E., & Bayraktar, Y. (2002). Endoscopic therapy in the management of hepatobiliary hydatid disease. *Journal of clinical gastroenterology*, *35*(2), 160-174.
8. Parlak, E., Akoglu, M., & Sahin, B. (2001). Effectiveness of endoscopic treatment modalities in complicated hepatic hydatid disease after surgical intervention. *Endoscopy*, *33*(10), 858-863.
9. Lakranbi, M., Raouti, M., Lamouime, F., Harmouchi, H., Sani, R., Abbou, C., ... & Smahi, M. (2021). Surgical and Endoscopic Management of Bilio-Bronchial Fistula Secondary to Ruptured Hydatid Cysts of the Liver:-Experience of a Moroccan Center. *JMSR*, *7*(1), 807-814.
10. Massit, H., Seddik, H., Basr, H., & Benkirane, A. (2015). Traitement endoscopique des complications biliaires de l'hydatidose hépatique. *Pan African Medical Journal*, *22*(1).