Case Report

Biloma due to blunt liver trauma

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Abstract

Background: *Biloma is a rare abnormal localized accumulation of bile out of biliary tree due to an injury. It has different non-specific clinical features and its diagnosis is based on clinical signs, radiologic findings and chemical analysis of aspirated liquid. Considering the non-specific clinical features, early diagnosis and treatment can have an effective role in the decrease of complications or even mortality and morbidity.*

Case presentation: *A 31 year-old man with dyspnea which had decreased pulmonary sound in the right lung base referred to our center. Two months ago, he had a history of laparotomy and a repaired liver rupture due to the blunt hepatic injury in an accident. His chest xray and abdominal ultrasonography showed a mass in his right liver lobe. The patient underwent the FNA with ultrasonography guide. Chemical analysis of aspirated liquid proved that the liquid was bile. The next follow up, the mass disappeared and no recurrence was detected.*

Conclusion: *Diagnosis of biloma in a patient with the history of blunt liver trauma should be considered for proper interventional treatment in order to reduce morbidity and mortality.*

Key words: *Biloma, Fine Needle Aspiration,Trauma*

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Biloma is a well-demarcated, encapsulated or not, bile collection outside the biliary tree secondary to iatrogenic, traumatic or spontaneous injury of the biliary tree. Gould and Patel used the term biloma for the first time in 1979 to describe a loculated collection outside the biliary tree but were then extended to include both intra and extra hepatic collections of bile (1). Most bilomas collect in the subhepatic space (2). Here, we report a 31 year old male patient, presented with dyspnea with decreased pulmonary sound in the right lung base who was under surgery for liver rupture repair due to blunt trauma.

Case Report

A 31 year old man presented with difficulty in breathing that gradually increased. In his lung auscultation, the basal side of his right lung sounds decreased. There was no other background disease and drug use. But he met an accident 2 months ago and was confined in Babol Shahid Beheshti Hospital. It had been diagnosed as hepatic blunt trauma, then hemodynamic instability was observed. For hepatic rupture relief he had had a laparatomy surgery and in the follow up period, he acquired dyspnea. Chest X Ray (CXR) included pleural effusion and right diaphragm overhang. Suspicion under the diaphragm tumor led us to sonography. It was reported that there was a mass with distinct round, limited and middle size (about 83.2×90.7 mm) in posterior segment of right hepatic lob. To define the exact location of mass, the patient underwent an extensive radiographic evaluation and Computed Tomography (CT) scan of the inferior thoracic and superior abdominal.

It represented right lung pleural effusion and had a cystic mass with sharp round, bigger than before about 10×12×12 in right lobe of liver.

The mass size increased in short time that caused increasing dyspnea. After some laboratory tests (Negative casoni test, Hydatoid (C.F.T)=1/80 with normal range <1/160) we ruled out other cysts e.g. hydatic cyst. To define the relation between the mass and biliary tree and to rule out the existence of the probability of pseudo-anorism, we did hepatobiliary-scintigraphy. It revealed a relation between mass and biliary tree. Finally, radiologists used guide-sonography. Fine Needle Aspiration (FNA) helped us to aspirate 500cc liquid. Chemical liquid analysis revealed its biliary and non-infectious that confirmed our diagnosis of Biloma secondary to liver trauma. In the follow up, it had a relation with biliary tree, although we never saw any recurrences in sonography and had a good response to FNA.

Discussion

Gould and Patel reported the first case of a biloma in 1979 (1). They reported a case with extra hepatic bile leakage after trauma to the upper right quadrant of the abdomen; the bile did not cause peritonitis, but it accumulated in an encapsulated form (2). Biloma is caused by iatrogenic, traumatic, or spontaneous rupture of the biliary tree (3). The most common cause is abdominal surgery, especially cholecystectomy. Nonsurgical iatrogenic causes of biloma include percutaneous transhepatic cholangiography, liver biopsy, and biliary drainage procedure (4). Another cause of biloma formation is the use of some kinds of drugs which in 1979 Gonsalves reported a patient who had been on prednisolone, 5mg daily, for 10 years for her rheumatoid arthritis (5). Another drug user which caused biloma is reported in a 27-year-old man who had been on steroid therapy for two months for his nephrotic syndrome (4). The patient described in this article had no previous history before his accident and the trauma to the liver which made him undergo surgery explain the formation of biloma. Therefore, the most probable cause of biloma formation after eliminating other causes is the liver trauma. At present, biliary fistulas and bilomas are usually traumatic in origin, following biliary, pancreatic, or gastric surgery when they typically arise from extra hepatic ducts (6, 7). The clinical symptoms of biloma are non-specific and they can range from no symptoms to abdominal pain and distention, jaundice persistent bile drainage and elevated liver enzymes; leukocytosis can also be present (8,9).

In our patient, the clinical symptom was different. It was asthma secondary to the pressure of the biloma to diaphragm which was found after radiography and ultrasonography. The size of reported bilomas varies from a few to 40 cms in diameter (10), the largest containing 5700 ml of bile (11). This patient accumulation was 89 cms. After biopsy, the liquid was diagnosed as bile. The culture test showed that the mass was sterile. Consequently, the definite diagnosis was biloma. Treatment for bilomas that has a diameter of only a few centimeters is not always necessary. These lesions can be watched over; however, most bilomas require treatment (10). In the past, surgery was the main approach to treatment. Today, are many is much wide variety of options such as percutaneous catheter drainage and/or endoprosthesis placement, endoscopic sphincterotomy (EST), endoscopic drainage, drainage of a biloma through the cholycystic ,endoscopic nasobiliary drainage (ENBD) (8,12-17). With this patient for treatment, the surgeon aspirated the biloma by FNA (fine needle aspiration), that fortunately, after a follow up, it showed no increase in the size of biloma. Diagnosis of biloma in a patient with the history of blunt liver trauma should be considered for proper interventional treatment in order to reduce morbidity and mortality.

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