

## Subcapsular hepatic haematoma after endoscopic retrograde cholangiopancrea-tography: An unusual case

Bao-Ying Fei, Cai-Hong Li

Bao-Ying Fei, Cai-Hong Li, Department of Gastroenterology, Zhejiang Provincial People's Hospital, Hangzhou 310014, Zhejiang Province, China

Author contributions: Fei BY contributed to the manuscript writing and revision; Li CH took part in the research.

Correspondence to: Bao-Ying Fei, PhD, Professor, Department of Gastroenterology, Zhejiang Provincial People's Hospital, Hangzhou 310014, Zhejiang Province, China. feibaoying@hotmail.com

Telephone: +86-571-85893430 Fax: +86-571-85131448

Received: November 22, 2012 Revised: December 16, 2012

Accepted: January 18, 2013

Published online: March 7, 2013

### Abstract

Subcapsular hepatic haematoma is a rare complication of endoscopic retrograde cholangiopancrea-tography (ERCP), and there are few reports about this unusual complication worldwide. The primary symptom of most cases reported in the literature is abdominal pain. We report an unusual case with the primary symptom of fever. A 56-year-old man who had a six-month history of recurrent episodes of upper abdominal pain was diagnosed with a common bile duct stone by magnetic resonance cholangiopancrea-tography. Endoscopic biliary sphincterotomy was performed, and stones from the common bile duct were successfully extracted with a basket. The patient had a persistent fever after ERCP, and treatment with intravenous antibiotics was unsuccessful. Computed tomography showed a 13 cm × 6 cm subcapsular hepatic haematoma filled with air and liquid on the surface of the right hepatic lobe. The patient was successfully treated with peritoneal drainage under B-ultra guidance. Subcapsular liver haematoma should be considered when hard-to- explain symptoms persist in the early period after ERCP. Percutaneous drainage is an effective treatment.

**Key words:** Endoscopic retrograde cholangiopancrea-tography; Hepatic; Hematoma; Complication; Treatment

Fei BY, Li CH. Subcapsular hepatic haematoma after endoscopic retrograde cholangiopancrea-tography: An unusual case. *World J Gastroenterol* 2013; 19(9): 1502-1504 Available from: URL: <http://www.wjgnet.com/1007-9327/full/v19/i9/1502.htm> DOI: <http://dx.doi.org/10.3748/wjg.v19.i9.1502>

### INTRODUCTION

Endoscopic retrograde cholangiopancrea-tography (ERCP) is a minimally invasive procedure for the diagnosis and treatment of biliary and pancreatic disease. Even for an expert, serious complications from therapeutic ERCP occur in 2.5%-8% of cases, with mortality ranging from 0.5%-1.0%<sup>[1]</sup>. Pancreatitis, cholangitis, perforation, and bleeding as a result of papillotomy are the most frequently described complications<sup>[2-6]</sup>. Subcapsular hepatic haematoma is a rare complication of ERCP, and there are few reports about this unusual complication worldwide<sup>[7-9]</sup>. We report an unusual case of subcapsular hepatic haematoma post-ERCP with fever as the primary symptom. By contrast, the primary symptom in most cases reported in the literature is abdominal pain.

### CASE REPORT

A 56-year-old man with a six-month history of recurrent episodes of upper abdominal pain was diagnosed with a common bile duct stone by magnetic resonance cholangiopancrea-tography. He was admitted for ERCP. A physical examination was unremarkable, and his laboratory tests were normal. Endoscopic biliary sphincterotomy was performed over a 0.035-inch diameter guide wire. Stones from the common bile duct were successfully extracted with a basket.

Two hours post-procedure, the patient developed a

fever (approximately 38.9 °C) without any chills. No other symptoms or findings were observed during physical examination. Laboratory tests revealed a white blood cell count of  $13.3 \times 10^9/L$  [normal limit  $(4-10) \times 10^9/L$ ] and serum C-reactive protein of 91 mg/L (normal limit < 5 mg/L). Serum amylase was elevated to 240 U/L (normal limit 30-110 U/L). We considered the cause to be cholangitis after ERCP and administered intravenous antibiotics. On the third day after ERCP, the patient complained of sudden-onset abdominal pain that disappeared after 20 min. At this time, serum amylase was normal. On the following day, the patient felt mild pain in the right upper quadrant of the abdomen without tenderness or signs of peritonism. On the 6 d post-ERCP, his laboratory data demonstrated white blood cell count of  $12.3 \times 10^9/L$ , neutrophils of 88.4%, and haemoglobin of 9.6 g/dL (normal 12-16 g/dL). His serum biochemistry was within normal limits. The patient had a persistent fever, and his highest body temperature was 39.4 °C. Computed tomography (CT) was performed, and demonstrated a 13 cm  $\times$  6 cm subcapsular hepatic haematoma filled with air and liquid on the surface of the right hepatic lobe (Figure 1).

The patient was haemodynamically stable and treated with peritoneal drainage under B-ultra guidance. His body temperature returned to normal after 1 wk of drainage, and the patient gradually recovered. The drainage catheter was withdrawn after four weeks. During the following week, a follow-up CT scan showed resolution of the haematoma.

## DISCUSSION

Subcapsular hepatic haematoma after ERCP is a rare complication, with few cases reported in the literature. It may be explained by an accidental puncture of the intrahepatic biliary tree by the guide wire and rupture of a small calibre intrahepatic vessel<sup>[10]</sup>.

The occurrence of persistent abdominal pain or hypotension after ERCP should raise the suspicion of subcapsular hepatic haematoma. In this case, the patient only presented with a fever within 2 d after ERCP and had no abdominal pain or hypotension. His body temperature was not controlled after the administration with intravenous antibiotics. The existence of air and liquid inside the haematoma revealed local infection, which explained of persistent fever. Therefore, persistent fever after ERCP suggests that certain precautions should be taken. Laboratory tests did not provide major indicators of the development of a subcapsular hepatic haematoma, except for a decrease in the haemoglobin level. Imaging modalities (ultrasound, CT, and magnetic resonance imaging) are the methods of choice for the diagnosis and surveillance of this complication<sup>[11,12]</sup>.

Most patients are managed conservatively. Surgical management should be considered when the general condition deteriorates, haemodynamic instability and signs of peritoneal irritation develop, and abdominal CT demonstrates free fluid. In the previously reported cases,



**Figure 1** Computed tomography scan of the upper abdomen showing a 13 cm  $\times$  6 cm subcapsular haematoma on the surface of the right lobe of the liver.

two cases<sup>[11,13]</sup> were treated surgically and three cases<sup>[14-16]</sup> were treated with percutaneous drainage. In this case, the patient's condition didn't improve after the administration of broad-spectrum antibiotics. Adequate percutaneous drainage was effective, suggesting that removing the liquid from within the haematoma is important.

In conclusion, subcapsular liver haematoma is a rare complication and should be kept in mind considered when hard-to-explain symptoms persist in the early period after ERCP. Conservative treatment will be sufficient in most cases. Percutaneous drainage is an effective treatment.

## REFERENCES

- 1 Hart R, Classen M. Complications of diagnostic gastrointestinal endoscopy. *Endoscopy* 1990; **22**: 229-233 [PMID: 2147002 DOI: 10.1055/s-2007-1010734]
- 2 Hammerle CW, Haider S, Chung M, Pandey A, Smith I, Kahaleh M, Sauer BG. Endoscopic retrograde cholangiopancreatography complications in the era of cholangioscopy: is there an increased risk? *Dig Liver Dis* 2012; **44**: 754-758 [PMID: 22727634 DOI: 10.1016/j.dld.2012.04.024]
- 3 Sun SY, Ge N, Wang S, Liu X, Wang GX, Guo JT. Pilot trial of endoscopic ultrasound-guided interstitial chemoradiation of UICC-T4 pancreatic cancer. *Endoscopic Ultrasound* 2012; **1**: 41-47 [DOI: 10.7178/eus.01.007]
- 4 Abdel Aziz AM, Lehman GA. Pancreatitis after endoscopic retrograde cholangio-pancreatography. *World J Gastroenterol* 2007; **13**: 2655-2668 [PMID: 17569133]
- 5 Cotton PB, Garrow DA, Gallagher J, Romagnuolo J. Risk factors for complications after ERCP: a multivariate analysis of 11,497 procedures over 12 years. *Gastrointest Endosc* 2009; **70**: 80-88 [PMID: 19286178 DOI: 10.1016/j.gie.2008.10.039]
- 6 Artifon ELA, Perez-Miranda M. EUS-guided Choledochoduodenostomy for malignant distal biliary obstruction palliation: An article review. *Endoscopic Ultrasound* 2012; **1**: 2-7 [DOI: 10.7178/eus.01.002]
- 7 Orellana F, Irrarrazaval J, Galindo J, Balbontin P, Manríquez L, Plass R, Araya R, Ríos H, Sáenz R. Subcapsular hepatic hematoma post ERCP: a rare or an underdiagnosed complication? *Endoscopy* 2012; **44** Suppl 2 UCTN: E108-E109 [PMID: 22477169]
- 8 Del Pozo D, Moral I, Poves E, Sanz C, Martín M. Subcapsular hepatic hematoma following ERCP: case report and review. *Endoscopy* 2011; **43** Suppl 2 UCTN: E164-E165 [PMID: 21563064]
- 9 Ertuğrul I, Parlak E, Ibiş M, Altıparmak E, Şaşmaz N, Sa-

- hin B. An unusual complication of endoscopic retrograde cholangiopancreatography. *Dig Dis Sci* 2006; **51**: 1167-1168 [PMID: 16865588]
- 10 **Lynch SP**, Evans JA. Difficult biliary cannulation. *Curr Gastroenterol Rep* 2010; **12**: 135-140 [PMID: 20424986]
- 11 **Priego P**, Rodríguez G, Mena A, Losa N, Aguilera A, Ramiro C, Lisa E, Conde S, Fresneda V. Subcapsular liver hematoma after ERCP. *Rev Esp Enferm Dig* 2007; **99**: 53-54 [PMID: 17371135 DOI: 10.4321/S1130-01082007000100014]
- 12 **Nari GA**, Preciado Vargas J, Rosendo Ballesteros N. A rare complication of ERCP: sub-capsular liver haematoma. *Cir Esp* 2009; **85**: 261-262 [PMID: 19327757 DOI: 10.1016/j.ciresp.2008.04.002]
- 13 **Pérez-Legaz J**, Santos J, Ruiz-Tovar J, Moya-Forcén P, Armañanzas L, Gómez M, Oller I, Arroyo A, Calpena R. Subcapsular hepatic hematoma after ERCP (endoscopic retrograde cholangiopancreatography). *Rev Esp Enferm Dig* 2011; **103**: 550-551 [PMID: 22054274 DOI: 10.4321/s1130-01082011001000011]
- 14 **Petit-Laurent F**, Scalone O, Penigaud M, Barbeys J. Subcapsular hepatic hematoma after endoscopic retrograde cholangiopancreatography: case report and literature review. *Gastroenterol Clin Biol* 2007; **31**: 750-752 [PMID: 17925779 DOI: 10.1016/s0399-8320(07)91937-5]
- 15 **Ortega Deballon P**, Fernández Lobato R, García Septiem J, Nieves Vázquez MA, Martínez Santos C, Moreno Azcoita M. Liver hematoma following endoscopic retrograde cholangiopancreatography (ERCP). *Surg Endosc* 2000; **14**: 767 [PMID: 11287996]
- 16 **Bhati CS**, Inston N, Wigmore SJ. Subcapsular intrahepatic hematoma: an unusual complication of ERCP. *Endoscopy* 2007; **39** Suppl 1: E150 [PMID: 17611897 DOI: 10.1055/s-2007-966241]

P- Reviewer Guturu P S- Editor Wen LL L- Editor A  
E- Editor Li JY

