Subcapsular hepatic hematoma post ERCP: a rare or an underdiagnosed complication?

Endoscopic retrograde cholangiopancreatography (ERCP) is a minimally invasive procedure for diagnosis and treatment of biliary and pancreatic disease that even in expert hands can have complications in 2%–10% of cases, with mortality rates of 0.5%–1% [1,2]. Pancreatitis, cholangitis, perforation, and bleeding from papillotomy have been the most frequently described complications.

Subcapsular hepatic hematoma is a rare complication following ERCP. The first report was in 2001 by Ortega et al. [1], and since then only a few cases have been described worldwide. We present a series of three cases of subcapsular hepatic hematoma post ERCP, treated at our institution in a 5-year period.

**Case #1.** A 96-year-old with a periampullary tumor with biliary obstruction underwent ERCP for biopsies and biliary plastic stent placement. At 4 hours post-procedure, the patient complained of right shoulder pain, with no other symptoms and no findings in the physical examination. Amylase and lipase were in the normal range. A computed tomography (CT) scan was performed, and this showed a subcapsular hepatic hematoma measuring 17×13×5 cm with central pneumobilia in the right hepatic lobe (Fig. 1). The patient was hemodynamically stable, and was conservatively managed, with analgesia and broad spectrum antibiotics. The evolution was uneventful, the follow-up CT showed complete resolution of the hematoma, and the patient was discharged 9 days after the admission.

**Case #2.** A 49-year-old man had previously had surgery for testicular cancer in 1996 and had acute pancreatitis in 2006. ERCP had been performed because of suspicion of chronic autoimmune pancreatitis, with biliary plastic stenting and two stent replacements since January 2007. The patient suffered a new episode of biliary stent occlusion, confirmed with liver function tests, CT, and magnetic resonance imaging (MRI), and underwent ERCPs with uneventful stent exchange. At 2 hours post-procedure, the patient complained of right upper quadrant abdominal pain, hypotension, and tachycardia that improved with fluid volume. The abdomen was tender in the right hypochondrium with no peritoneal signs. Abdominal CT showed a subcapsular hepatic hematoma covering 50% of the total hepatic volume. Hypotension persisted, and a further CT showed a free rupture to the peritoneal cavity with hemoperitoneum (Fig. 2). Angioembolization of the right hepatic artery was done, with peritoneal drainage under CT guidance, of 1950 mL of blood. The patient recovered with progressive reduction of the drainage flow, and complete resolution of the hematoma was seen at another CT scan. The drainage was withdrawn on the 7th day after admission and the patient was discharged.

**Case #3.** A 55-year-old woman had undergone operation for gallbladder cancer in 2007 with adjuvant chemoradiotherapy, and had biliary plastic stenting for malignant biliary obstruction; the stent had been replaced four times. The patient was admitted with biliary stent dysfunction and underwent ERCP with uneventful biliary plastic stent exchange. She then presented progressive abdominal and right shoulder pain. An abdominal CT was performed that showed a right subcapsular hepatic hematoma covering 30% of the total hepatic volume (Fig. 3). This was conservatively managed. The check CT scan showed complete resolution and the patient was discharged.
ERCP is a diagnostic and therapeutic procedure that has become the treatment of choice for management of biliary tract diseases, although MRI has gained ground as a diagnostic procedure in recent times. Even in experienced hands, it has a 10% morbidity rate overall and a 1.5% mortality rate [2].

Subcapsular hepatic hematoma is a rare complication of ERCP, and only few cases have been reported in the literature. The occurrence of sudden-onset abdominal pain or hypotension post-procedure should raise the suspicion of this complication [10].

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References

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