

# Gas Containing Liver Hematoma: An Unusual Complication Of ERCP

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## Citation

R Saa, A Sarriugarte, M Guerra, L Agirre, H Marin, M Prieto, A Colina. *Gas Containing Liver Hematoma: An Unusual Complication Of ERCP*. The Internet Journal of Surgery. 2010 Volume 27 Number 2.

## Abstract

**Background:** Although ERCP is generally a safe procedure, serious complications occur occasionally. Liver hematoma is one of them, and is often associated with instrumentation of the bile duct. Gas presence is a remarkable finding in these collections at an early stage which forces us to think about their origin. **Material and Method:** We report a case of a patient diagnosed with choledocholithiasis with obstruction of the main bile duct in whom endoscopic sphincterotomy by ERCP was performed with fatal results. **Results:** It is possible to damage the liver with the consequence of hematoma during ERCP. The presence of air may be due to insufflation or bacterial fermentation. **Conclusions:** ERCP is a resolute and safe procedure to treat the obstruction of the main bile duct, although not free of complications. It is essential that the procedure is performed in a gentle way to avoid accidents that could lead to fatal consequences.

## CASE

This is a 92-year-old patient with a history of essential thrombocytosis, heavy smoker and alcoholic with a previous episode of acute pancreatitis. He was admitted to the emergency department complaining of diffuse abdominal soreness, jaundice, choloria and acholia. Abdominal exploration revealed pain on deep palpation in the right hypochondrium with no peritoneal irritation or detectable mass. During the study there was analytical evidence of cholestasis without alteration of inflammatory parameters, so a MR-cholangiography was requested. The test demonstrated choledocholithiasis with obstruction of the main bile duct. As a next step an ERCP was performed.

It confirmed the presence of several stones in the common bile duct and an endoscopic sphincterotomy was done. The subsequent evolution began to be torpid, requiring a new endoscopic review in the next 24 hours because of upper gastrointestinal hemorrhage, which could not identify the source of the bleeding. The patient remained stable with an abdominal exploration without pathological data. An angio-CT was requested in an attempt to locate the point of bleeding and, as a surprising finding, the scan reported the presence of a peripheral liver hematoma in the left lobe containing air suggestive of superinfection without evidence of active bleeding; stigmata of chronic liver disease and portal hypertension.

An ultrasound-guided drainage was performed. The patient's clinical status deteriorated suddenly and the surgical team decided to operate, but in this context he died from cardiorespiratory arrest.

## Figure 1

Figure 1. Angio-CT



Figure 2

Figure 2. Angio-CT

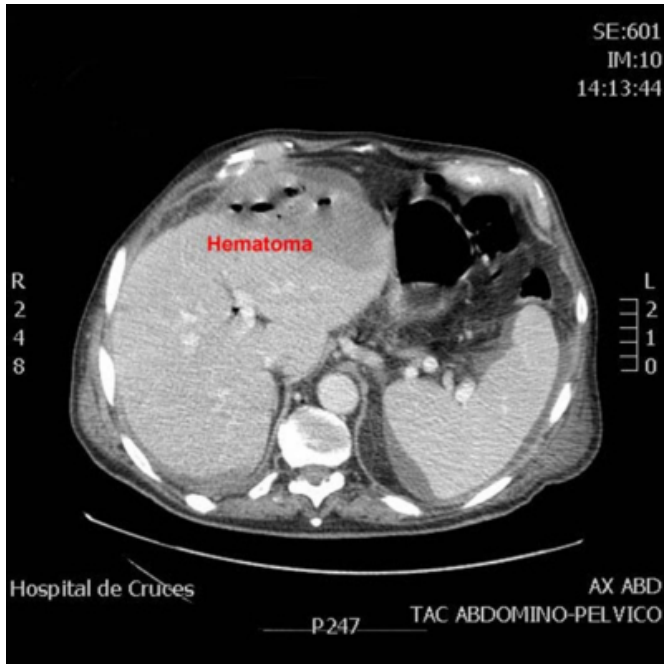
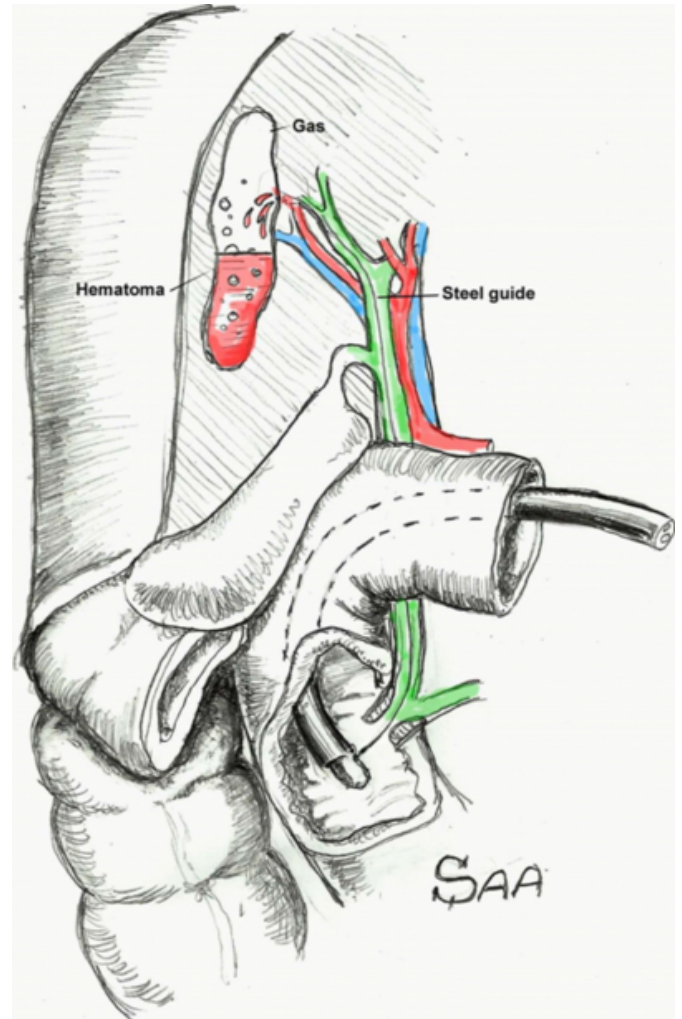


Figure 3

Figure 3. Pathogenesis of hematoma



**COMMENTS AND DISCUSSION**

In the literature there are very few references to this kind of complication. Post-ERCP hematomas are more associated with the use of stents in the management of biliary stenosis after orthotopic liver transplantation<sup>1,3,4</sup>. The exploration of the bile duct with endoscopic devices might be the cause of the injury<sup>2</sup>. It is possible that the steel guide used for the procedure has passed through a segmental blood vessel causing vascular damage and the subsequent formation of a hematoma<sup>5</sup>.

The presence of gas within the collection in the first 48 hours after the ERCP may create doubts about the possibility of being a consequence of air insufflation<sup>6</sup> or superinfection by gas-producing bacteria. Some authors reported iatrogenic injuries during the efforts to treat a biliary fistula with the result of a hepatic hematoma; most of them were solved with non-surgical procedures<sup>7,8</sup>.

In our patient, we opted for percutaneous drainage, antibiotics and support measures; but despite the initial recovery, advanced age and comorbidity broke with the good evolution. It is important to keep in mind that the ERCP, as any endoscopic intervention, is not free of complications, even in the most experienced hands.

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