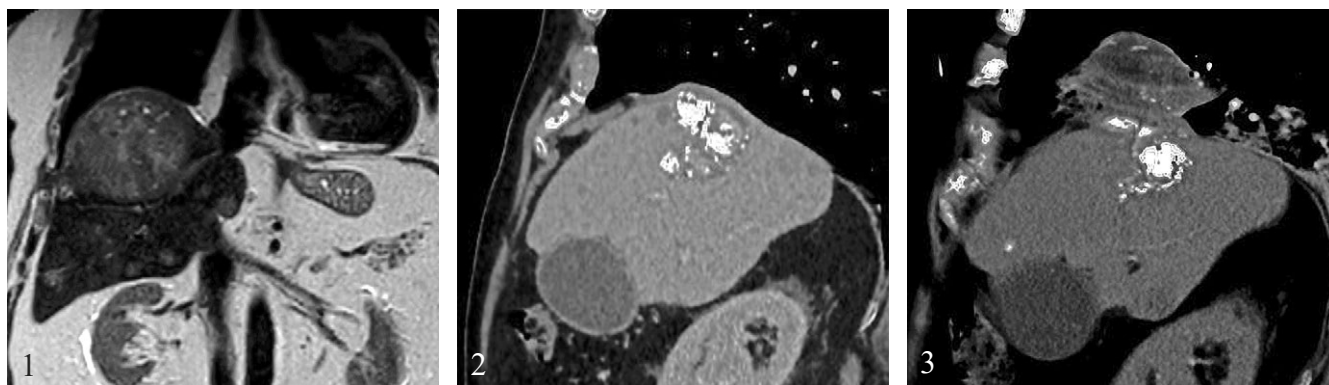


Intrathoracic Rupture of Hepatocellular Carcinoma

Olivier Guillaud, Clément Proust, Luc Henry, Jérôme Dumortier

Hôpital Edouard Herriot, Pavillon L, Fédération des Spécialités Digestives, Lyon, France



A 84-year old man presented in September 2019 with a multifocal biopsy-proven hepatocellular carcinoma (HCC) located in the right hepatic dome (Fig. 1, magnetic resonance imaging, coronal section). He received two sessions of transarterial chemoembolization with a partial response. He developed bone metastasis in January 2020. He received sorafenib (January-June 2020), and then regorafenib (from June till death). In September 2020, he reported intermittent right shoulder pain, and surveillance showed a mild progression of the disease. One year after Lipiodol chemoembolization treatment of the HCC, the computed tomography scan revealed moderate progression of the tumor with diaphragm deformation (Fig. 2, coronal section). He was admitted in October 2020 with acute respiratory failure and abdominal pain. The computed tomography scan showed an intrathoracic rupture of the HCC lesion (Fig. 3, coronal). The patient died four days later.

Spontaneous rupture of HCC is the third most common cause of death due to HCC, after tumor progression and liver failure [1]. Indeed, mortality due to rupture of HCC is reported to be as high as 25–75% [2]. The proposed mechanisms of HCC rupture include tumor location rather than tumor size (small room hypothesis), vascular injury and venous congestion [3]. Hepatocarcinoma rupture usually induces acute abdominal pain, and hemorrhagic shock in case of hemoperitoneum. Hepatocellular carcinoma rupture can rarely present as hemothorax, more commonly due to pleural rupture of a metastatic HCC, than to rupture of a primary liver tumor [4]. We report here the case of intrathoracic HCC rupture after transarterial chemoembolization, which can have induced ischemic necrosis and vascular injuries [5]. The role of systemic therapies remains questionable; recently a spontaneous

rupture of lung metastasis from HCC after the introduction of lenvatinib has been reported [6].

Corresponding author: Jerome Dumortier,
jerome.dumortier@chu-lyon.fr

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