

Massive Venous Air Embolism After Liver Transplantation

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Received: 21 Sep 2021

Accepted: 04 Oct 2021

Published: 11 Oct 2021

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Keywords:

Liver transplantation; Hepatic vein thrombosis;
Venous air embolism; Multidetector-CT scan

Citation:

Marrone G, Massive Venous Air Embolism After Liver Transplantation. Japanese J Gastro Hepato. 2021; V7(5): 1-3

1. Abstract

Transplantation has become the method of choice for treatment of patients with irreversible severe liver dysfunction. Hepatic vein thrombosis is a potential vascular complication. We describe a unique case of massive hepatic vein air embolism after liver transplantation, well documented on MDCT scan. Venous air embolism after liver transplantation represents a rare but dangerous complication, in this case fatal. MDCT is an adequate diagnostic tool to achieve the diagnosis.

2. Clinical Image

A 43-year-old male Liver Transplant (LT) recipient for HCV-related cirrhosis had severe gastrointestinal bleeding two weeks after LT, confirmed by endoscopic procedures. Emergency angiography showed bleeding from a branch of the gastro-duodenal artery; endovascular coils embolization was performed.

Because of a severe increase of hepatic enzymes (AST 7088 U/L; ALT 1046 U/L; Bil 11.28 mg/dl) and elevated white blood count (15.98 uL) multidetector CT (MDCT) scan with and without contrast media was done, showing massive gas embolism of the right hepatic vein (Figure 1) and diffuse liver necrosis (Figure 2). Soon after, the patient died of hepatic insufficiency and sepsis.

Iatrogenic and non-iatrogenic causes of hepatic venous gas have been described, but gas embolism of hepatic veins after LT has not been reported in the literature [1, 2]. We believe that in our patient air embolism was multifactorial in origin: liver necrosis secondary to hypoperfusion, and infection likely due to endoscopic procedures. Venous air embolism after LT represents a rare and dangerous complication. MDCT is an adequate diagnostic tool to achieve the diagnosis.



Figure 1: Dynamic contrast graphic CT image on coronal plane showing massive gas embolism of the right hepatic vein up to the distal branches (white arrows).

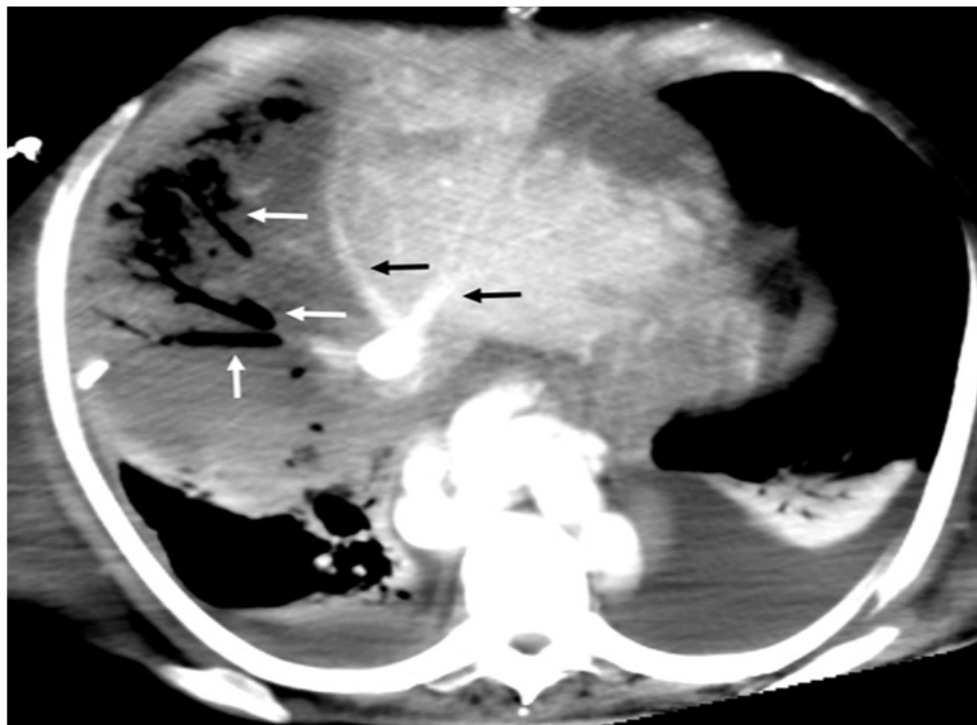


Figure 2: Enhanced axial CT image showed regular opacification of the middle and left hepatic vein (black arrows). On the contrary, the right hepatic vein is totally obliterated by gas embolism (white arrows).

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