

Images of the month 1: Histoacryl glue embolisation to the right ventricle following treatment for gastric varices

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ABSTRACT

A 46-year-old woman presented with decompensated liver disease. Upper gastrointestinal endoscopy demonstrated a gastric fundal varix with stigmata of recent bleeding. She was treated with Histoacryl glue and lipiodol injection. As a part of a clinical trial, a transthoracic echocardiography was performed. This showed an echogenic mass in the right ventricle. The mass was initially assumed to be thrombus, but as the clinical story did not fit with this, she had further investigations. Computed tomography found the mass to be very radio-opaque with embolisation into the right lung. This is a rare appearance of glue embolisation, a recognised complication of treatment with Histoacryl glue.

KEYWORDS: glue, right ventricle, embolisation

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Case presentation

A 46-year-old woman presented with acute alcoholic hepatitis on a background of alcohol-related cirrhosis complicated by gastrointestinal bleeding, coagulopathy and hepatic encephalopathy. Gastroscopy demonstrated a gastric fundal varix with stigmata of recent bleeding. This was treated with cyanoacrylate glue (Histoacryl) and Lipiodol injection. She improved and did not experience dyspnoea, chest pain or further bleeding.

As a part of a clinical trial, a transthoracic echocardiography was performed. This showed normal biventricular systolic function, borderline right ventricle (RV) dilatation and an incidental finding of an RV echogenic mass. This was considered to represent either thrombus or vegetation, though the latter was considered extremely

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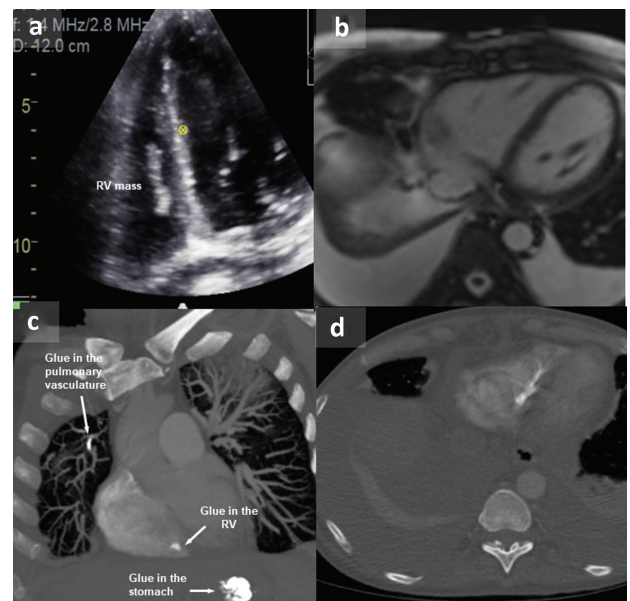


Fig 1. Multi-modality imaging showing right ventricle mass. a) Echocardiography showing an elongated structure in the right ventricle. b) Cardiac magnetic resonance imaging showing no masses in the right ventricle. c and d) Computed tomography multiplane reconstruction showing radio-opaque material in the right ventricle and in the pulmonary vasculature. RV = right ventricle.

unlikely based on the patient's clinical presentation. As the findings did not fit with the RV mass being a thrombus either, further investigations were performed. A cardiovascular magnetic resonance imaging was performed but it was not possible to visualise the mass, probably because of its high mobility and small size. Computed tomography pulmonary angiography (CTPA) was performed, which demonstrated no evidence of pulmonary embolism.

On changing the windowing panel of the CTPA on the radiology software, the mass in the RV was seen to be highly radio-opaque, with a further small radio-opaque mass seen in the right lung pulmonary vasculature. Non-contrast CT confirmed that the radio-opaque areas in the RV and the right pulmonary vasculature were not artefactual. It is known that the glue is radio-opaque and given the previous history of oesophageal varices sclerotherapy, a diagnosis of glue embolisation to the RV and lungs was made. As there was potential for a thrombus to form on the glue, cautious

anticoagulation was started and, on serial scans over the following year, there has been no significant change in the size of the mass.

Discussion

Embolisation resulting from variceal injection of glue has been a recognised complication of this treatment for many years, occurring in up to 5% of patients.¹ Case reports have documented embolic involvement of the brain, spleen and pulmonary vasculature.² There are rare case reports of glue emboli being found in the both the right and left atria but, to our knowledge, this is the first case identifying a glue embolus in the RV.³

The management of patients with pulmonary glue emboli is mainly supportive and usually there is no need for anticoagulation. However, in our case, in addition to the pulmonary glue embolisation, the RV was affected as well. There is limited

evidence in the literature regarding treatment of cardiac glue embolisation but given its known thrombogenic nature, anticoagulation tailored to patients' bleeding risk is probably necessary.

In conclusion, cardiac embolisation is a rare but important complication of glue-based variceal therapy that clinicians should be aware of. This case stresses the importance of a multimodality imaging approach to diagnose such rare complications. ■

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