Multiple heart injuries caused by fracture and migration of the inferior vena stent

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A 42-year-old man with a history of inferior vena stent placement for the Budd–Chiari syndrome 3 years ago presented with 16 days of shortness of breath, abdominal distension, and cough. The patient underwent paracentesis 14 days ago for large amount of pericardial effusion, which was bloody. Physical examinations were remarkable for jugular vein distention and continuous murmur in the tricuspid valve. Echocardiography revealed that one strut of the stent appeared at the inferior vena cava–right atrium junction, and the other side was in the right atrium (Panels A and B; see Supplementary videos online). A fistula, with continuous flow between the non-coronary sinus and the right atrium, was detected [Panels C (see Supplementary video online) and D], and a left-to-right shunt was found in the middle of the atrial septum (Panel E). Diagnosis of the right atrial–aortic fistula and atrial septal perforation was made. Chest computed tomography (CT) scans revealed the presence of the stent in the right atrium (Panel F) and metal opacities in the left pulmonary artery and in the right hepatic vein (Panels G and H). An emergency operation was performed. The patient under-

went the operation well. Intraoperative inspection (Panel I) demonstrated that there was a laceration of the parietal pericardium close to the junction of the right atrium and the inferior vena cava, an 8 mm defect in the central part (oval fossa) of the atrial septum, and a 10 mm laceration in the non-coronary sinus. Therefore, the diagnosis made by echocardiography and CT was confirmed. Although several reports have shown that the inferior vena cava filter or stent could migrate into the right atrium, a condition leading to multiple perforations, as in our case, has not been described. In such a case, prompt open-heart surgery is mandatory.

Supplementary material
Supplementary material is available at European Heart Journal online.