

Emergency pericardiocentesis: a word of caution! Accidental transhepatic intracardiac placement of a pericardial catheter

Maximilian Y. Emmert^{a,*}, Thomas Frauenfelder^b, Volkmar Falk^a and Markus J. Wilhelm^a

^a Department of Cardiovascular Surgery, University Hospital Zurich, Zurich, Switzerland

^b Department of Diagnostic Radiology, University Hospital Zurich, Zurich, Switzerland

* Corresponding author. Department of Cardiovascular Surgery, University Hospital Zurich, Raemi Street 100, 8091 Zurich, Switzerland. Tel: +41-44-2553298; fax: +41-44-2554446; e-mail: maximilian.emmert@usz.ch, maximilian_emmert@web.de (M.Y. Emmert).

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Following an unsuccessful ultrasound-guided pericardial puncture of a 42-year old patient due to malignant pericardial effusion (Fig. 1A), blood was suddenly delivered, suggesting cardiac perforation. After a sternotomy, no perforation site was found, but the catheter was palpable within the inferior vena cava (IVC). Instead, it was identified penetrating the liver and had obviously found its way into the hepatic veins, the IVC ending up in the right atrium (Fig. 1B–H, [Supplementary Movie 1](#)). This case highlights that a pericardial puncture may carry a high risk of major complications

and these procedures should be performed by experienced clinicians with the standby of a cardiothoracic unit.

Conflict of interest: none declared.

SUPPLEMENTARY MATERIAL

[Supplementary material \(Video 1\) is available at EJCTS online.](#)



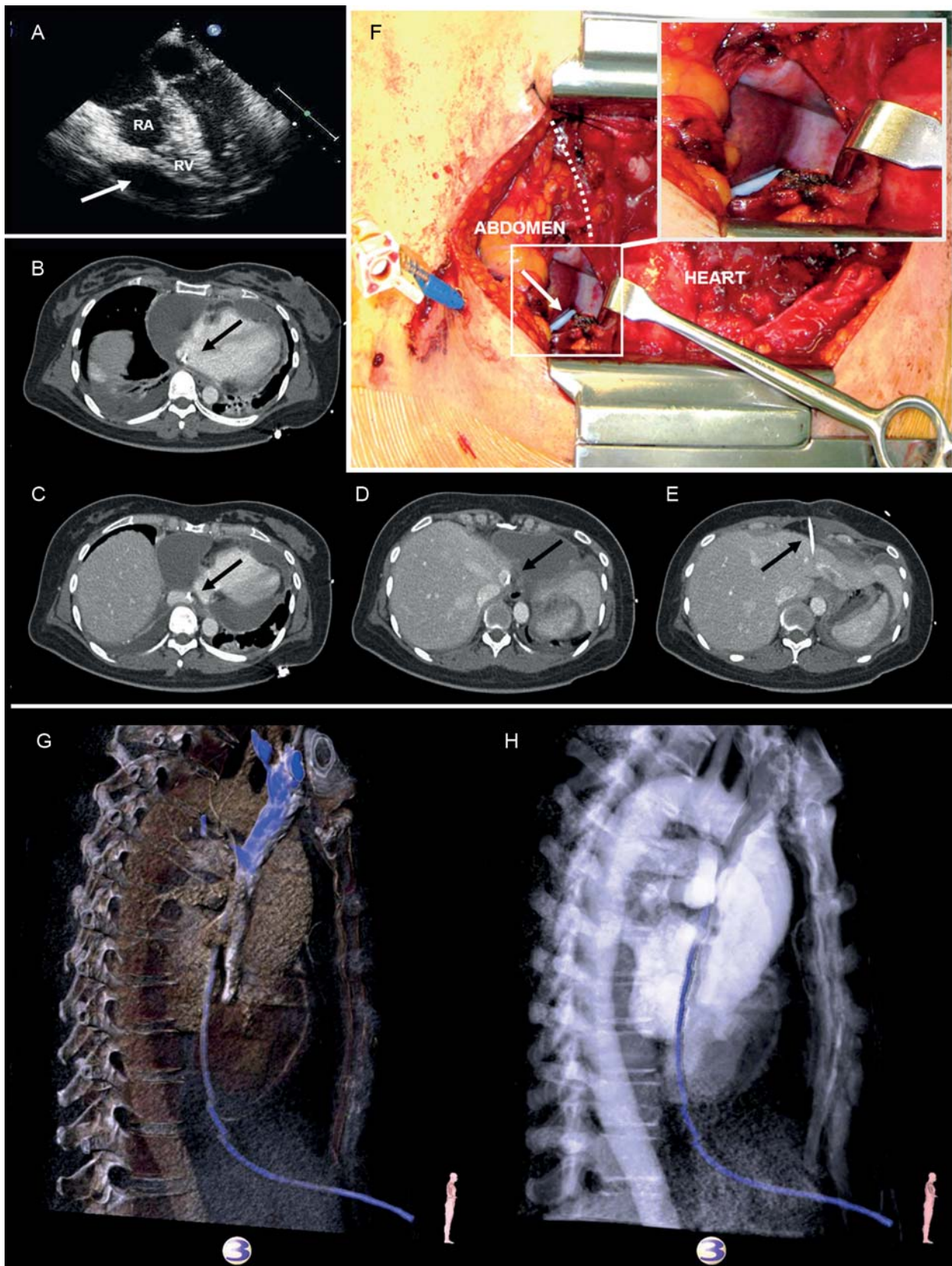


Figure 1: (A) Transoesophageal echocardiography showing the significant pericardial effusion compressing the right ventricle (white arrow); RA: right atrium, RV: right ventricle. (B–E) Computed tomography (CT) angiography showing the catheter in the right atrium (B, black arrow), the IVC (C, black arrow), the hepatic veins (D, black arrow) and the abdominal entrance site of the catheter (E, black arrow). (F) After incision of the peritoneum, the course of the catheter could be identified penetrating the liver in its diaphragmatic surface (white arrow and inset). (G and H) Three-dimensional CT angiography reconstruction showing the catheter taking a course through the liver, hepatic veins and IVC into the right atrium.