

- Zambanini A, Mastik F, van Es GA, van der Steen AF, Vince DG, Ganz P, Hamm CW, Wijns W, Zalewski A; Integrated Biomarker and Imaging Study-2 Investigators. Effects of the direct lipoprotein-associated phospholipase A(2) inhibitor darapladib on human coronary atherosclerotic plaque. *Circulation* 2008;**118**:1172–1182.
82. Koenen RR, Weber C. Therapeutic targeting of chemokine interactions in atherosclerosis. *Nat Rev Drug Discov* 2009;**9**:141–153.
83. Tibolla G, Norata GD, Artali R, Meneghetti F, Catapano AL. Proprotein convertase subtilisin/kexin type 9 (PCSK9): from structure-function relation to therapeutic inhibition. *Nutr Metab Cardiovasc Dis* 2011;**21**:835–843.
84. Akdim F, Tribble DL, Flaim JAD, Yu R, Su J, Geary RS, Baker BF, Fuhr R, Wedel MK, Kastelein JJP. Efficacy of apolipoprotein B synthesis inhibition in subjects with mild-to-moderate hyperlipidaemia. *Eur Heart J* 2011;**32**:2650–2659.
85. Binder CJ, Chang M-K, Shaw PX, Miller YI, Hartvigsen K, Dewan A, Witztum JL. Innate and acquired immunity in atherogenesis. *Nat Med* 2002;**8**:1218–1226.
86. Ahmed T, Karalis I, Jukema JW. Emerging drugs for coronary artery disease. From past achievements and current needs to clinical promises. *Expert Opin Emerg Drugs* 2011;**16**:203–233.

CARDIOVASCULAR FLASHLIGHT

doi:10.1093/eurheartj/eh025

Online publish-ahead-of-print 1 February 2013

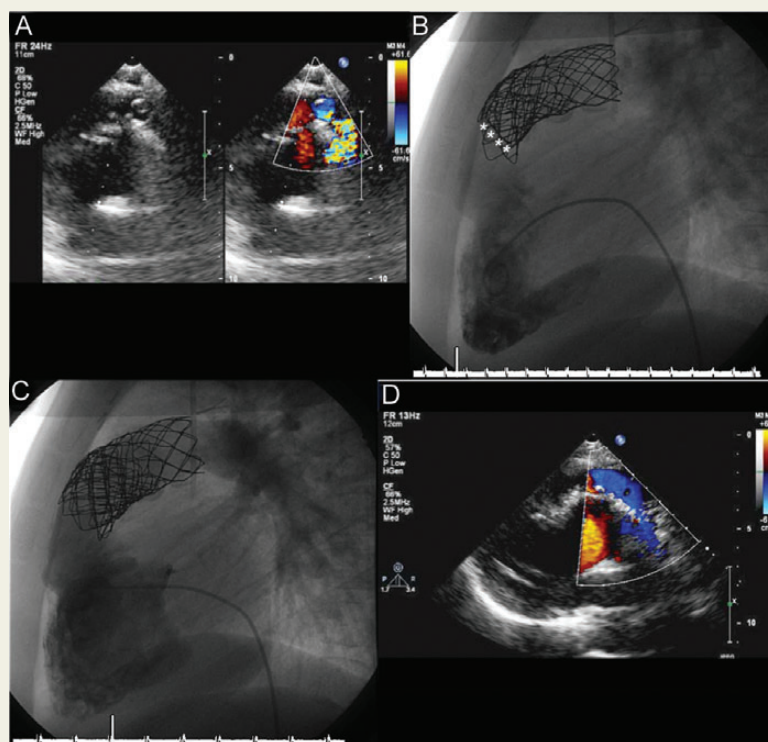
Accidental stent fracture due to chest trauma after percutaneous Melody valve implantation

Sven Hormann, Walter Knirsch*, and Oliver Kretschmar

Division of Cardiology, University Children's Hospital Zurich, Steinwiesstrasse 75, Zurich 8032, Switzerland

* Corresponding author. Tel: +41 44 2667617, Fax: +41 44 2667981, Email: walter.knirsch@kispi.uzh.ch

A 12-year-old boy was treated with percutaneous Melody valve implantation (Medtronic, Inc., USA) due to a severe right ventricular (RV) to pulmonary artery (PA) homograft stenosis. Two years later, while playing at a swimming pool, the boy received a powerful and unexpected hit to his back by a rubber tyre. He immediately complained about severe back and chest pain, general weakness, nausea, and one episode of syncope during exertion. Doppler echocardiography revealed a new severe pulmonary (Melody) valve stenosis with a narrowed lumen and a free floating structure inside (Panel A). Cardiac catheterization revealed severe RV-PA obstruction (peak-to-peak-gradient 40 mmHg). This was caused by fractures of anterior and proximal stent struts of the Melody valve just behind sternal boarder ("coup contre-coup" mechanism) leading to dynamic narrowing of the stent lumen by protruding like an additional valve into the vessel lumen during systole (Panel B, asterisks; Supplementary material online, Video loop S1). Melody valve integrity itself was not affected. Therefore, implantation of a second Melody valve inside the old valve ("valve-in-valve") was carried out. After intervention, Melody valve position and function were excellent (Panel C; Supplementary material online, Video loop S2). On echo, at discharge 3 days later, Melody valve showed a laminar flow pattern (Panel D).



Coup contre-coup mechanism due to accidental chest trauma may cause strut fractures of the valved stent due its anatomic nearness to sternal border. In this situation, a percutaneous valve-in-valve procedure has to be considered. This can be performed safely and avoids cardiopulmonary bypass surgery.

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