Jacket of guidewire detaching during interventional closure for peri-valvular leak after VIV TAVR

Juan Wang, MD\textsuperscript{a,b,*}, Yangyang Wang, MD\textsuperscript{a,b*}, Bo Li MD\textsuperscript{c}, Yunshan Cao, MD, PHD\textsuperscript{b#}

\textsuperscript{a} School of Clinical Medicine, Ningxia Medical University, Yinchuan, 750000, P.R. China.
\textsuperscript{b} Department of Cardiology, Pulmonary Vascular Disease Center, Gansu Provincial Hospital, Lanzhou, China.
\textsuperscript{c} The First clinical Medical College of Gansu University of Chinese Medicine.

*Co-first authors. These authors contributed equally to this work.

#Correspondence to: Dr. Yunshan Cao, Department of Cardiology, Gansu Provincial Hospital, 204 Donggangxi Road, Lanzhou 730000, P. R. China.

E-mail: yunshancao@126.com.

Conflict of interest: None.

Funding: Y.S.C. was supported by grants from the National Natural Science Foundation of China (82070052).

© The Author(s) 2022. Published by Oxford University Press on behalf of the European Society of Cardiology. This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial License (https://creativecommons.org/licenses/by-nc/4.0/), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited. For commercial re-use, please contact journals.permissions@oup.com
Jacket of guidewire detaching during interventional closure for peri-valvular leak after VIV TAVR

A 61-year-old male patient with severe aortic stenosis underwent valve-in-valve (VIV) transcatheter aortic valve replacement (TAVR) and presented with a moderate prosthetic valve perivalvular leak (PVL) confirmed by an ascending aortogram (arrows) (Panel A and Video S1). Interventional PVL closure was attempted. Although we used both retrograde and antegrade approaches to approach the defect, the guiding catheter (arrows) failed to cross the stent mesh along the guidewire after several attempts (Panels B and C). Therefore, we abandoned the interventional closure and withdrew the catheter and guidewire. After that, it was discovered that the super-slide hydrophilic guidewire's polyurethane jacket with tungsten (arrows) was detached and floating in the ascending aorta. (Panel D and video S2). Finally, it was successfully captured (arrow) and removed by a snare. (Panels E and F, and Videos S3 and S4). The patient was referred to surgery for further treatment of PVL. The reason for the guiding catheter failing to cross could be that the overlapped stents after VIV TAVR generated smaller stent meshes, which also contributed to the jacket of the guidewire detaching with repeated procedures.

PVL is one of the complications after TAVR. Interventional closure could be selected with prudence for PVL after VIV TAVR.

Consent: The authors confirm that written consent for submission and publication of this case report including images and associated text has been obtained from the patient in line with COPE guidelines.
Figure 1

159x107 mm (8.0 x DPI)