Successful retrieval of fractured catheter tip during coronary angiogram

B C Srinivas, Himanshu Mahla, Shivakumar Bhairappa, Cholenahally Nanjappa Manjunath

Department of Cardiology,
Sri Jayadeva Institute of
Cardiovascular Sciences and
Research, Bengaluru,
Karnataka, India

Correspondence to
Dr Shivakumar Bhairappa,
snbhairappa@gmail.com

DESCRIPTION

A 59-year-old man with effort angina NYHA (New York Heart Association) class III since 6 months was taken for elective coronary angiogram. While trying to cannulate the left main coronary artery (LMCA), we saw the radio-opaque tip portion of diagnostic 5F Judkins 3.5 catheter (Cordis Corp, Florida, USA) lying in the left circumflex (LCX;

figure 1 and video 1). The catheter was taken out but we observed that the tip of the catheter was broken. We took a guiding 6F Judkins 3.5 catheter

Figure 1 Anteroposterior view (left system) showing broken catheter tip.

Video 1 Cine image showing broken catheter tip in LCX.

Figure 2 Right anterior oblique caudal view (left system angiogram) showing broken catheter tip in left circumflex.

Video 2 Right anterior oblique caudal view (left system angiogram) showing broken catheter tip in LCX.

Figure 3 Left anterior oblique caudal view (left system angiogram) showing broken tip in left circumflex after wiring with balloon catheter proximally on the way.

Video 3 Left anterior oblique caudal view (left system angiogram) showing broken tip in LCX with distal migration after wiring.

CrossMark

To cite: Srinivas BC,
Mahla H, Bhairappa S, et al.
BMJ Case Rep Published
online: [please include Day
Month Year] doi:10.1136/
bcr-2013-201852

and cannulated the LMCA. The broken tip was located proximal to the LCX and the major obtuse marginal junction (figure 2 and video 2). A 0.014" floppy guidewire (Abbott Vascular, California, USA) was manipulated to go through the catheter tip and positioned in the distal LCX artery (figure 3 and video 3). A 2.0×10 mm Sprinter balloon (Medtronic, Inc, Minneapolis, Minnesota, USA) was advanced over the guidewire through the lumen of the broken catheter tip (figure 4 and video 3). Some distal migration of broken tip occurred during manipulation. Balloon was inflated at 6 atmospheric pressure and pulled back but it did not work. Then we went up to 8 atmospheric pressure (video 4). Finally the guiding catheter was pulled out along with the inflated balloon, the guidewire and the catheter tip as an assembly without any complications (figure 4 and video 5).

Although there are many reports of fractured angioplasty guidewires, fracture of coronary catheters is not common.¹ The

Figure 4 Right anterior oblique caudal view (left system angiogram) post-retrieval-broken tip from left circumflex.

Video 4 Left anterior oblique caudal view (left system angiogram) showing removal of whole assembly post balloon inflation.

Video 5 Right anterior oblique caudal view (post retrieval catheter tip) with TIMI III flow in LCX.

factors contributing to the fracture of catheters include torquing, forceful withdrawal of catheter which is entrapped in arterial spasm, reuse, manufacturing flaws, inadvertent passage of large catheter through smaller sized access site sheaths and polymer ageing or a combination of factors. In our case repeated use of catheter might be the causative factor. Repeated use should be restricted as much as possible and should be used very cautiously.

Learning points

- Repeated use of hardware in catheterisation laboratory should be restricted as much as possible.
- Prompt recognition in the case of fracture of the tip of coronary catheter is must.
- The exact incidence of catheter fragmentation and embolisation is unknown.

Contributors BCS performed the procedure and generated idea of publishing. HM and SB were involved in article preparation. CNM reviewed and amended the article.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCE

- 1 Reddy CV, Khan R, Feit A, *et al.* Catheter separation during coronary angiography. *Cathet Cardiovasc Diagn* 1983;9:417–19.

Copyright 2013 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <http://group.bmj.com/group/rights-licensing/permissions>.
BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- ▶ Submit as many cases as you like
- ▶ Enjoy fast sympathetic peer review and rapid publication of accepted articles
- ▶ Access all the published articles
- ▶ Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact consortiasales@bmjgroup.com

Visit casereports.bmj.com for more articles like this and to become a Fellow