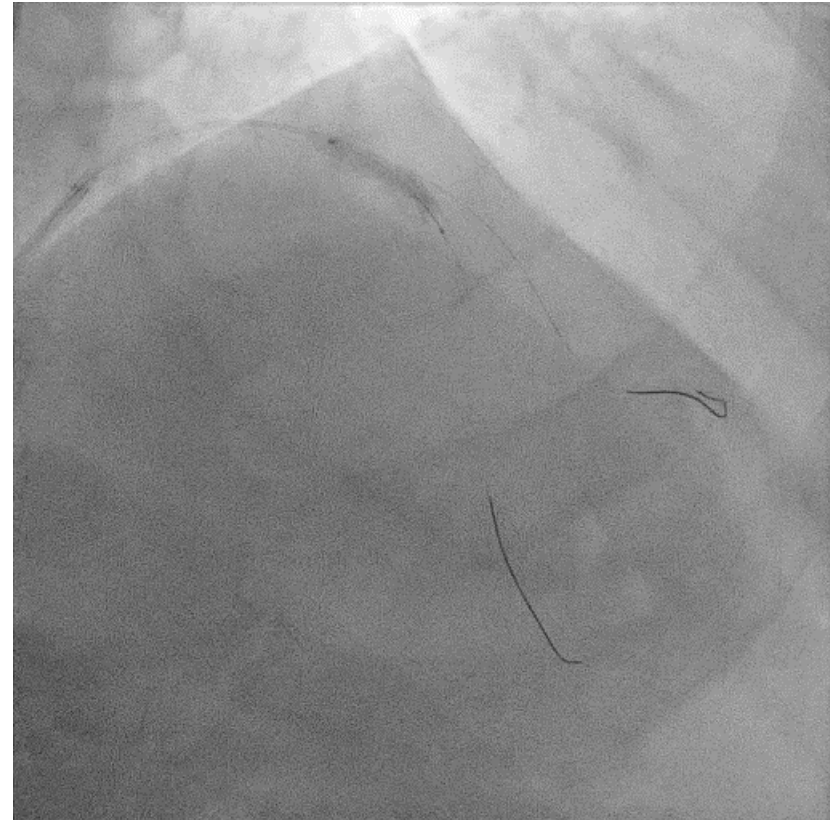


Crumpled stent during the removal of an entrapped jailed wire, with its subsequent rupture: how should we manage?

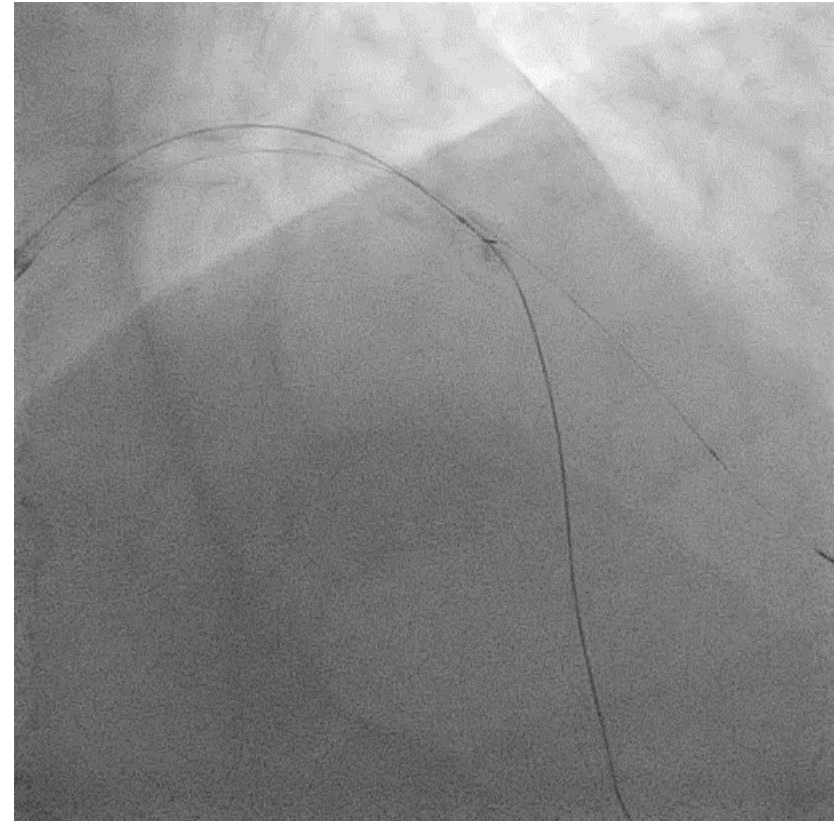
Clinical case

A 79-year-old man was submitted to angioplasty of left anterior descending (LAD) and first diagonal branch. Two guidewire were put in both LAD (runthrough hypercoat) and diagonal branch (BMW Universal II). LAD lesion was pre-dilated with a 2.75 x 15 mm semi-compliant balloon and a stent Xience Skypoint 3.0 x 28 mm was implanted in the mid LAD.



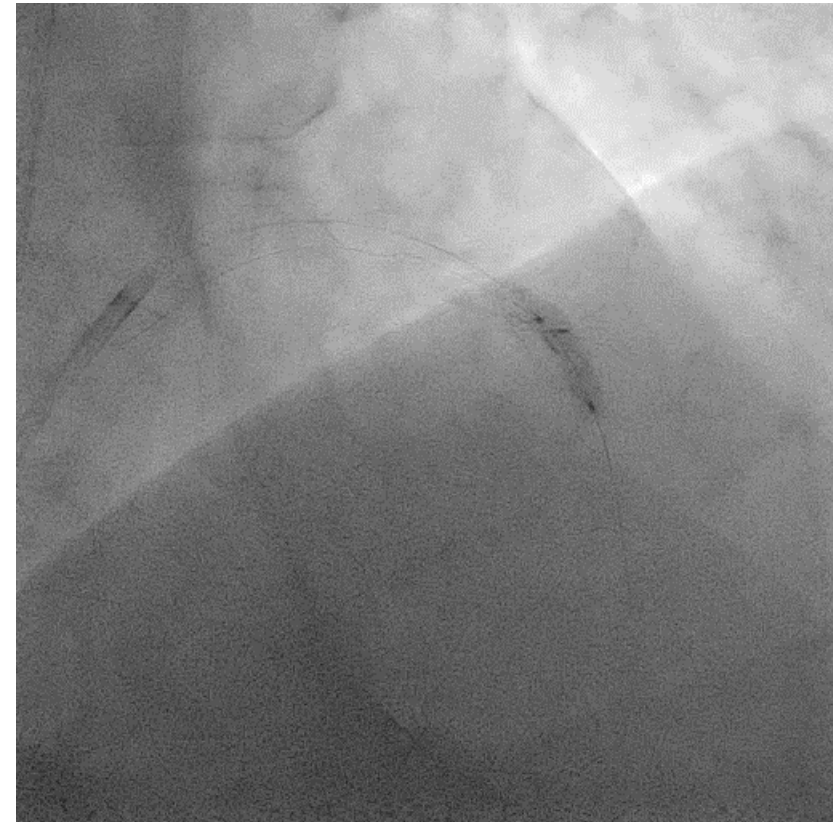
Guidewire entrapment and stent crumpling

While removing the jailed guidewire it resulted entrapped and multiple attempt to remove it were performed also with the use of a microcatheter that resulted ineffective. In the last energetic attempt of removing the wire the stent crumpled in the mid LAD.

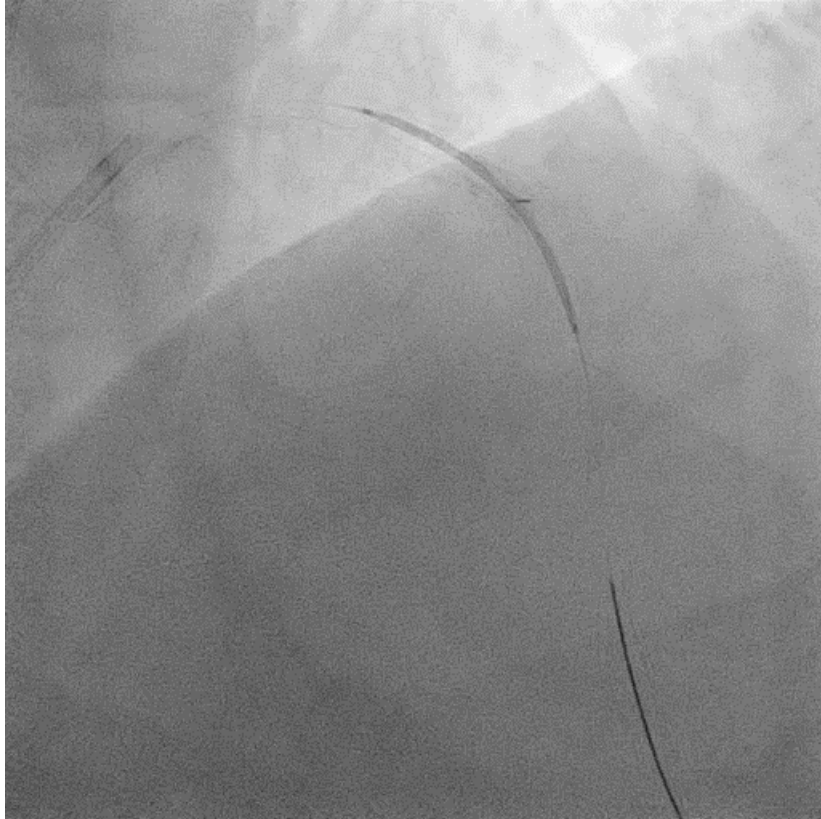


Technical resolution

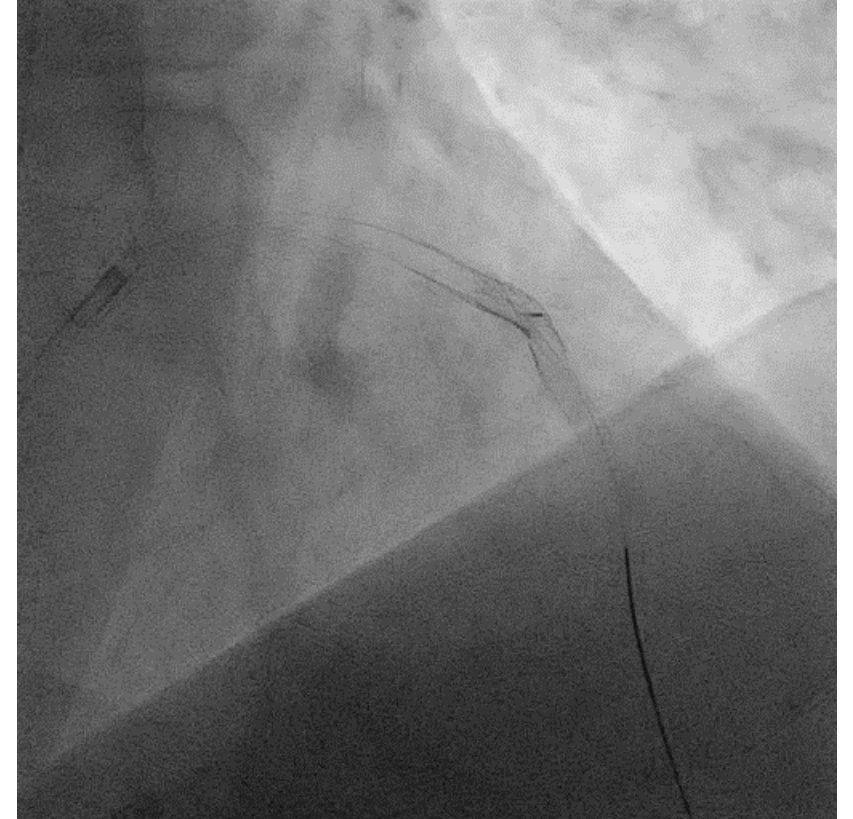
We tried to cross the crumpled stent with semi-compliant balloon of increased size (from 1.0 x 8 mm to 2.5 x 15 mm) and finally a longer stent 3 x 38 mm was implanted across the previous stent with a stent-in-stent technique.



Technical resolution



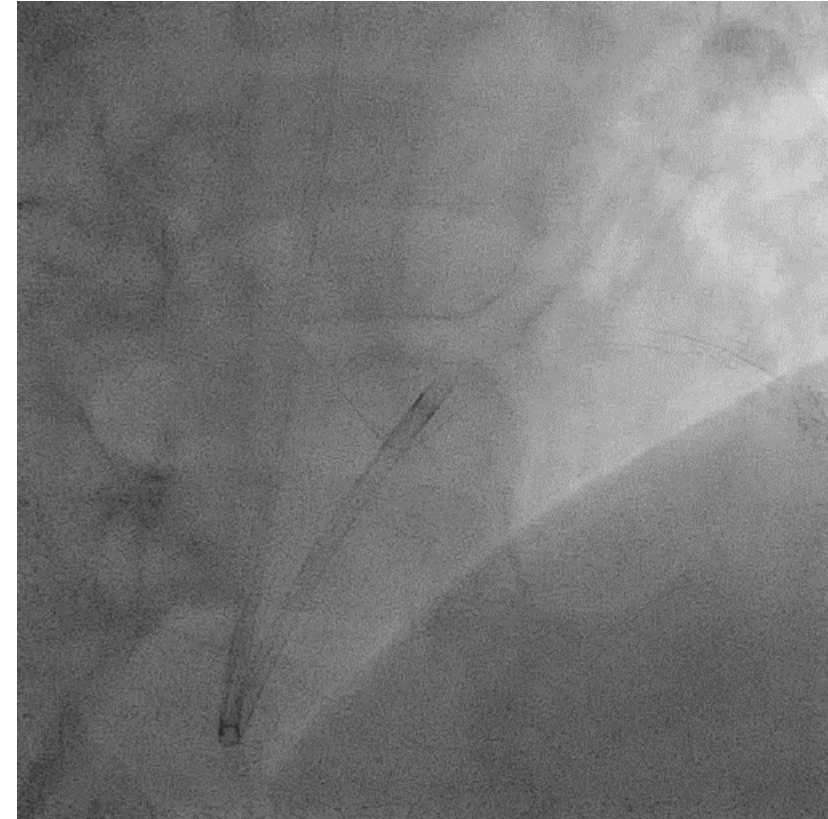
Stent-in-stent technique



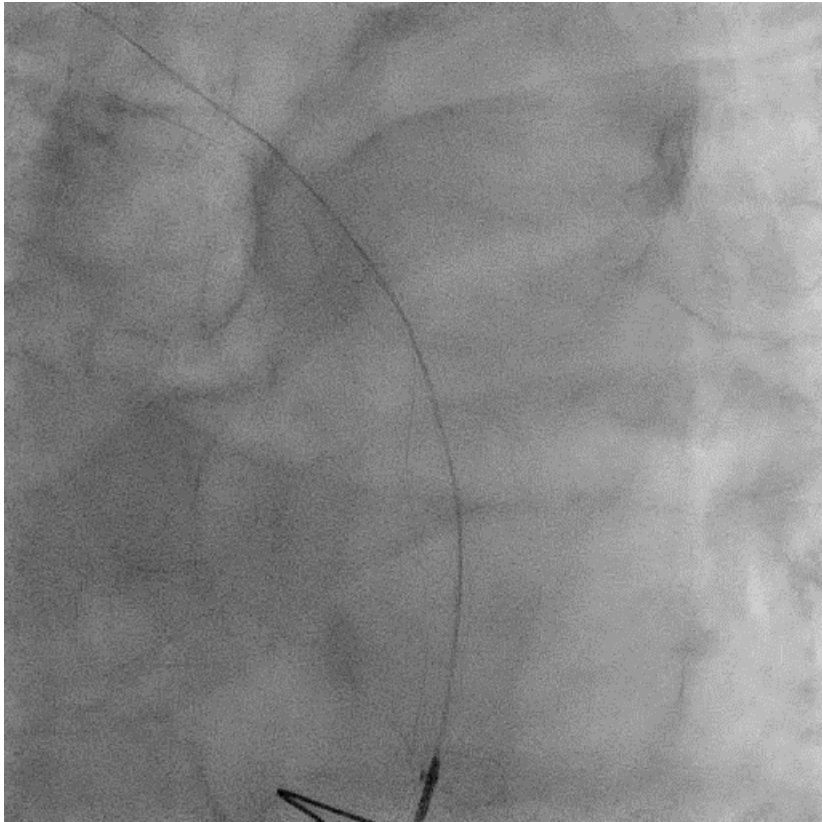
Final result

Guidewire fracture

The entrapped jailed wire finally was fractured at
the level of right subclavian artery



Technical resolution



multiple attempt of capturing the wire
were performed with the use of Goose-
Neck that resulted ineffective, so we
decided to abandon the guidewire



Clinical implications

- Treatment of coronary bifurcation can complicate with stent crushing and compression that can lead to an increased risk of stent thrombosis;
- Here we report a case in which stent crumpling was resolved by dilation and stent-in-stent implantation;
- Unfortunately, the guidewire was fractured at right subclavian artery level and was not removed;
- Retained guidewire fragments can be highly thrombogenic leading to coronary occlusion or systemic embolization;
- Retrieval of the retained guidewire fragment(s) is recommended in most cases and should ideally be achieved using percutaneous techniques, although in some cases surgical removal may be required.

Perspectives

- Given the high risk of cardiac surgery and of other percutaneous techniques to remove a retained fracture guidewire, a device capable of capturing the wire with a retrievable cutter could be useful, but to date this is not available.
- When we decide to abandon the wire in the ascending aorta, an optimal anti-thrombotic therapy strategy should be adopted in order to reduce the risk of intracoronary thrombosis or systemic embolization.