LETTER TO THE EDITOR

Inadvertent extraction of a deployed stent after using twisted wire technique

To the Editor,

Stent dislodgement prior to deployment is a rare complication during percutaneous coronary intervention (PCI). The incidence has gradually decreased because of the utilization of premounted stents [1]. However, stent dislodgement after deployment is a more uncommon complication [2–5]. We report a case of stent dislodgement after using a twisted wire technique.

A 61-year-old male suffered from dyspnea and was brought to our emergency department (ED). Electrocardiography revealed ST depression over inferior and lateral leads, and the patient was intubated because of pulmonary edema. Laboratory data showed elevated cardiac enzymes. An early PCI was arranged, and angiography showed the middle right coronary artery with 95% stenosis and the left circumflex artery (LCX) with severe diffuse lesions. First, the right coronary artery was simply treated with angioplasty and stenting. Then the lesions of LCX were predilated by angioplasty, and a 2.5 mm × 24 mm stent was deployed over the distal LCX. We further deployed a 2.75 mm × 28 mm stent over the proximal LCX. Because there was an uncovered lesion between the stents, we decided to cover it with a 2.75 mm × 15 mm stent. However, we failed to cross the LCX because of the proximal deployed stent and angulation. The unexpanded stent was entrapped and dislodged over there. Because the guidewire was still in situ, we used the twisted wire technique to retrieve the stent. A Whisper guidewire was selected to cross the LCX, and two wires were rotated several turns. A significant resistance was felt while pulling back the dislodged stent. After several attempts, we finally pulled out the dislodged stent; however, a previous proximally deployed stent was also inadvertently extracted (Fig. 1). There was no serious coronary complication, and only restenosis was observed. Finally, we deployed a 3.0 mm × 30 mm stent overlapping with the distal stent. The patient was uneventfully discharged later.

Stent dislodgement prior to deployment is a rare complication, and there are several causes of stent dislodgement (e.g., highly calcified lesions, angulation). Stent retrieval can be achieved using several techniques such as a small-balloon technique or twisted-wire technique. If retrieval is impossible, crushing or deploying the dislodged stent may be another choice [1]. In our case, we

Figure 1. After using the twisted wire technique to retrieve the dislodged stent, a previously deployed stent over the proximal left circumflex artery was also accidentally pulled out. Both stents showed severe structural distortion and deformation.

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used the twisted wire technique to pull out the dislodged stent.

Stent dislodgement after deployment is a rare complication. Only a few cases have been reported [2–5], and most cases were related to entrapped cutting balloons [2–4]. Only one case was due to rewiring process and the peeling off wire coating [5]. Our case might be the first case of stent extraction due to using the twisted wire technique. The factors responsible for deployed stent extraction might be as follows. First, a previous dislodged stent was entrapped in the LCX because of angulation and a proximally deployed stent. Second, the twisted wire technique is another possible cause of stent extraction because of the inadequate route of the second wire.

In conclusion, stent dislodgement after deployment is a rare complication of PCI nowadays and can lead to morbidity and mortality. Interventionists should pay more attention to prevent the possibility of stent dislodgement.

References


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