

Dislodged Guidewire in the Descending Aorta and Iliofemoral Artery during Transfemoral Sheath Placement: Percutaneous Retrieval via Contralateral Femoral Artery—An Innovative Approach

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Abstract

A case in which a 0.038-inch guidewire was inadvertently pushed into the common femoral-iliac and descending aorta, during sheath-guidewire placement, through the common femoral artery during cerebral angiogram is described here, and a successful retrieval system using a coronary guidewire is also described. A Boston Scientific MPXF 6Fr guiding catheter (Boston Scientific, Boston, Massachusetts, United States) shortened to 70 cm was advanced beyond the floppy tip of the guidewire through the left common femoral artery. A Cordis (Miami, Florida, United States) supersoft coronary guidewire of 0.014-inch diameter, bent on itself through the middle so as to have an available 90 cm, with the closed advancing tip splayed and bent at an angulation of 90 degrees to form a gooseneck, was advanced through the lumen of guiding catheter to seize the floppy tip of the guidewire acting like a snare and captivating it into the guiding catheter; and thereafter, the whole system was withdrawn en bloc.

Keywords

- ▶ cerebral angiogram
- ▶ common femoral artery
- ▶ complication

Introduction

The transfemoral approach is currently popular for vascular access during cerebral angiogram and interventions. Arterial puncture is usually simple. A floppy tip guidewire is advanced through the puncture needle. Once the guidewire is placed intra-arterially and the placement is confirmed fluoroscopically, the needle is removed. The arterial sheath and dilator are passed over the guidewire after ensuring that the distal end of the guidewire is brought through the sheath-dilator complex and held by an assistant. Failure to hold the guidewire during one such procedure leads to the same being pushed into the common femoral artery. This report describes a successful percutaneous retrieval method via contralateral femoral artery and complication of angiography subsequently.

Case Report

A 55-year-old nondiabetic, nonhypertensive obese woman underwent a four-vessel cerebral angiogram for spontaneous subarachnoid hemorrhage. The right femoral artery was punctured, and during the passage of arterial sheath and dilator over the guidewire, the failure to hold the tip of the guidewire caused it to become dislodged and pushed into the right common femoral artery. Under fluoroscopy, the floppy tip of the guidewire was found to lie in the descending aorta with the distal end being in the right femoral artery. To retrieve the dislodged guidewire, a Boston Scientific 6Fr Guider Softip XF Guiding Catheter, 6Fr (Boston Scientific, Boston, Massachusetts, United States) shortened to 70 cm was placed in the left femoral artery. The tip of the Guider Softip was advanced beyond the floppy tip of the guidewire. A

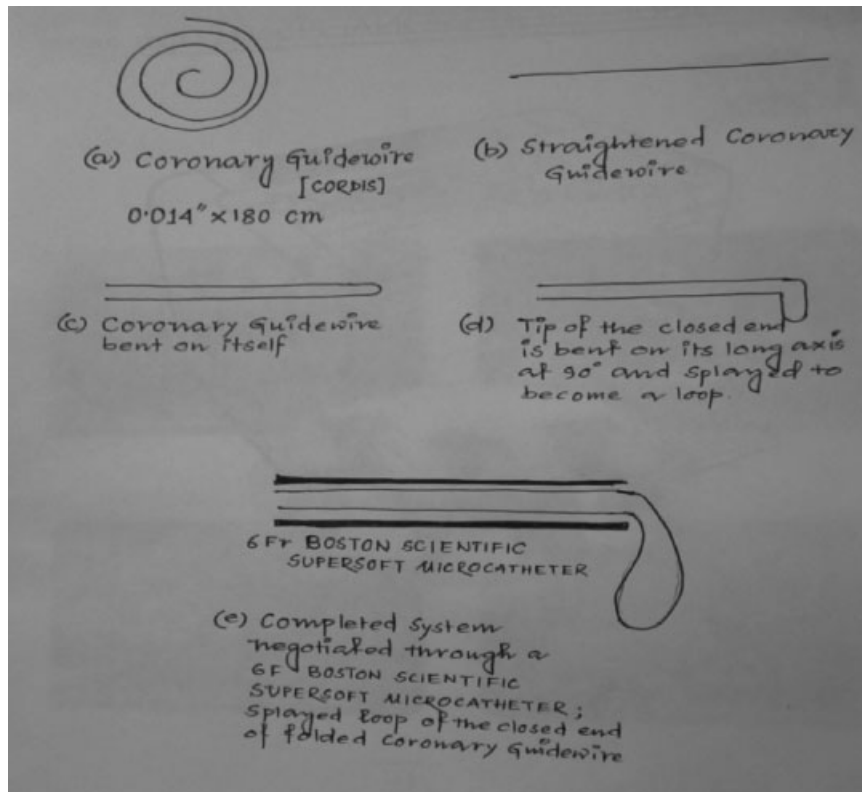


Fig. 1 Steps of making the retrieval system.

Cordis supersoft coronary guidewire of 0.014-inch diameter bent on itself at the middle, so as to have an available working length of 90 cm, with the distal close tip bent an angle of 90 degrees on its axis, and splayed to look like a gooseneck snare loop (→**Fig. 1**), was advanced through the lumen of guiding catheter. Now after advancing the coronary wire beyond the floppy tip, the same was seized and captivated into the guiding catheter (→**Figs. 2** and **3**). Thereafter, the whole system was removed successfully en bloc (→**Fig. 4**). The cerebral angiogram was completed subsequently.

Discussion

Unmet complication is the cursed baby of advancing technologies. Dislodged guidewire is a serious and potentially life-threatening complication with reports of

fatalities being up to 20%¹ when the complete wire is lost. Retained guidewire in the circulation causes complications such as thrombosis, emboli, and sepsis. Nonsurgical removal of the lost guidewire is the treatment of choice.² Several methods for a dislodged broken wire have been reported such as a small-balloon catheter, a snare loop, the two-wire technique, and instruments used only beyond the coronary circulation such as grasping forceps and basket retrieval devices.³⁻¹³ Snare loop wire or its modification was the most common technique used.^{2,3} Such snare loop systems are costly devices and may not be readily available. Because neurosurgeons are increasingly carrying out neuro interventional techniques; therefore, it is imperative that they familiarize themselves with such retrieval techniques. The complications caused by us was entirely avoidable, however, could have proven fatal.

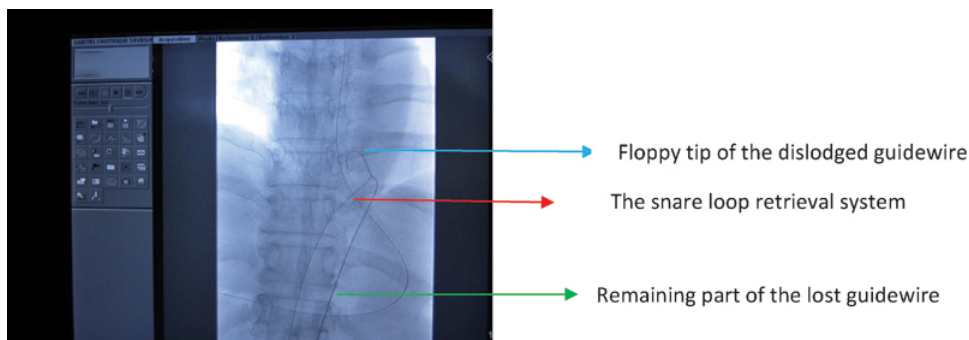


Fig. 2 The guidewire was being seized into the snare loop retrieval system.

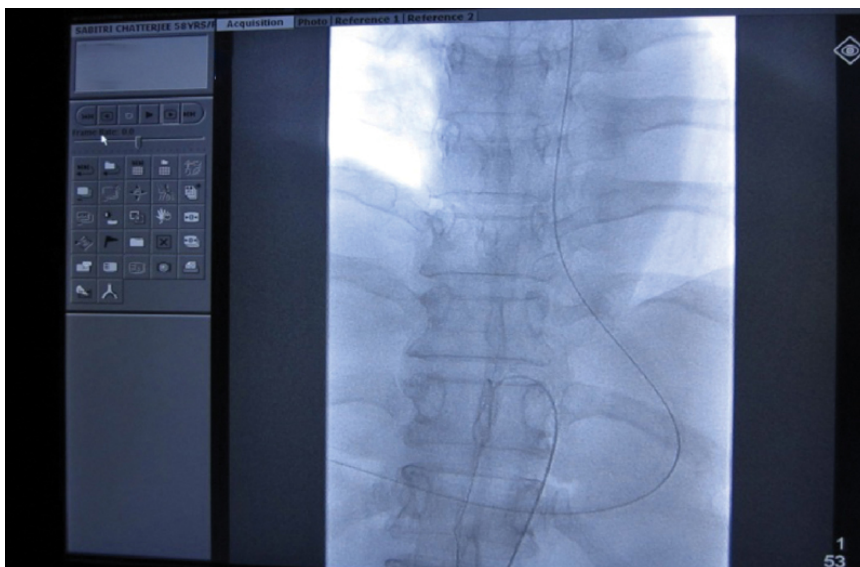


Fig. 3 The guidewire was captivated into the guiding catheter after being seized into the snare loop retrieval system.



Fig. 4 The whole system was retrieved.

Source of Support
Nil.

Conflict of Interest
None.

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