Removal of a Knotted Subclavian Semi-floating Pacing Wire

To the Editor:

A 48-year-old white man who had had a previous anterior wall myocardial infarction was admitted with an acute inferior wall infarction and 2:1 heart block. A bipolar semifloating pacing wire (Elecath) was inserted percutaneously through a Jelco needle into the right subclavian vein. Under electrocardiographic control, the patient wire was advanced into the right ventricle. Two weeks later, while attempting its withdrawal, the last few inches of the wire could not be withdrawn from the subclavian vein. X-ray examination revealed a knot in the distal end of the wire just cephalad to the proximal electrode.

Because of fear of laceration with resultant uncontrollable hemorrhage from the poorly accessible subclavian vein, it was elected not to forcibly pull the wire out through the initial puncture site. An attempt was made to remove the wire under local anesthesia, but the surgeon felt he was unable to expose the vein without danger of pneumothorax. To preclude thoracotomy under general anesthesia, a catheter retriever set was then employed.*

A 100 cm long No. 8 French straight Teflon catheter with a .052 inch end hole was inserted into a right antecubital basilic vein cut-down, and with the aid of a guide wire, passed to the level of the pacing wire in the subclavian vein. The guide wire was replaced with a 250 cm in length, .021 inch diameter wire guide snare which was doubled and passed through the Teflon catheter so that a loop protruded from the catheter tip.

Under fluoroscopy, the pacing wire was snared by passing the wire guide loop around it. The pacing wire was then pulled tightly against the Teflon catheter tip. After cleansing the external portion of the pacing wire with antiseptic solution, the Teflon catheter and wire snare were withdrawn from the arm, pulling with it the pacing wire. Brief discomfort was felt by the patient as the knotted wire was drawn down the arm. The patient was placed on prophylactic antibiotics. On the second day, a phlebitis in the right arm was noted which responded quickly to symptomatic therapy.

Although there have been a few cases reported of knotting of the more flexible stainless steel floating pacing wire, 2 Rosenberg 3 reported more than 200 cases of semifloating wires inserted through the subclavian vein with no incidence of knotting. To the authors' knowledge, this is the only reported case of knotting with the less flexible semifloating wire.

Since review of the chest x-ray film suggested that a loose knot had formed in the pacing wire loop in the right atrium, removal of the wire under fluoroscopic control might have permitted unknotting of the wire by careful manipulation.

George H. Sabel, M.D. and David N. Bramwit, M.D.
Departments of Cardiology and Radiology, Pascack Valley Hospital, Westwood, New Jersey

REFERENCES