Rapid Placement of Flow-Directed Catheters

To the Editor:

Various techniques have been employed in the placement of balloon-tipped flow-directed catheters. The approach through a cutdown in the antecubital fossa is relatively free of hazard, but venospasm may occur, prolonging the procedure or making the advancement of the catheter impossible. Introducers, when used, do not have this disadvantage but when placed in a vein with a large bore do have the following two disadvantages: (1) the needle tract may ooze blood for up to a week; and (2) as one advances the introducer over the directing needle, the vein may be pushed off of the end of the needle. We describe a simple technique that has none of these disadvantages.

Technique

The supraclavicular area is cleansed with a povidone-iodine solution (Betadine), and the surrounding area is draped to maintain sterile conditions. The patient is placed in Trendelenburg’s position, and a 14 gauge needle on a 10-ml syringe is advanced into the subclavian vein. When blood returns, the syringe is removed, and a 150-cm Teflon-coated guide wire with a flexible tip (Cook Inc., type T SF; 0.025 inches in diameter) is advanced, with the flexible tip first, into the vein for a distance of 15 to 20 cm (Fig 1). The needle is then withdrawn over the wire while the wire is left in place. The external portion is wiped with a sterile gauze pad soaked in heparinized saline solution. The catheter (No. 7 French) is flushed with heparinized saline solution and advanced over the wire. Once the catheter is at the level of the skin, the wire is slowly withdrawn until it protrudes from the proximal end of the catheter, with the distal end remaining in the vein. The proximal end of the wire is held securely, and the catheter is advanced to the 15-cm level. The wire is removed, and the catheter is flushed, aspirated, and then advanced in the usual manner.

Discussion

We have found that the method described herein provides rapid access to a vein and has not been associated with any significant complications in 38 placements of catheters. Our preference for the 14 gauge needle is based on the size of the needle’s tract, which offers little resistance to advancement of the catheter through the skin. The technique can be adapted to an internal jugular vein or an indwelling central venous pressure line.

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Exercise Testing in Right Bundle-Branch Block

To the Editor:

In regard to our article entitled “The Electrocardiographic Response to Maximal Treadmill Exercise Testing of Asymptomatic Men with Right Bundle Branch Block,” we would like to report additional information and observations. In our report, we observed that there was no depression of the S-T segment noted in two left ventricular leads (leads V5 and CC5) or in an infero-superior bipolar lead. Although changes were noted in the Z lead (which is similar to lead V5) and were displayed in Figures 1 and 2 of our article, we made no mention of these changes.

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We chose not to mention these abnormalities for the following two reasons: (1) in studies of normal men with normal electrocardiograms, it has been uncertain whether the normal ST-segment vector moves anteriorly or posteriorly in response to exercise; and (2) the Z lead or V2 complex often is a broad notched RSR' with a T-wave vector oriented opposite to the QRS vector in right bundle-branch block. With this pattern, there is ST-segment depression at rest; and, in fact, this pattern can be likened to the pattern found in lead V6 in left bundle-branch block. As we have reported, ST-segment depression in lead V6 in patients with left bundle-branch block cannot be used to make diagnostic decisions about these patients. Men with left bundle-branch block and angiographically normal coronary arteries have had up to 1 mv of additional ST-segment depression in lead V6.

Because of these two reasons, we considered it best not to suggest that additional ST-segment depression in the anterior precordial leads of patients with right bundle-branch block had any diagnostic significance. The current use of exercise testing systems that record the entire 12 leads during and after exercise will make the problem of ST-segment depression in the anterior precordial leads in patients with right bundle-branch block more apparent (Fig 1). With the presently available data, we believe that this response may be physiologic and of no diagnostic value. We would encourage other investigators to confirm or deny our conclusion.

Additionally, we have since observed exercise-induced ST-segment depression in two patients with right bundle-branch block and documented coronary arterial disease. These changes occurred in lead V6 alone in one patient and in leads V6, aVF, and V4 in the other. These patients had multivessel coronary arterial disease and somewhat relieve our doubts about the sensitivity of exercise testing in patients with right bundle-branch block. To our knowledge, there has not been a report evaluating the response to exercise testing in an adequate number of patients with right bundle-branch block who have had documented coronary disease. We would recommend that this would be a worthwhile investigation. Such data may already be available in some exercise testing laboratories (Frank I. Marcus, M.D., oral communication, April 1977).

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REFERENCES


Levels of Noise from Respiratory Therapy Equipment

To the Editor:

Recently, incubators, which are probably the most quiet pieces of respiratory therapy equipment, were found to produce levels of sound loud enough to be considered "a perinatal risk factor with regard to later hearing impairment." No similar studies are currently available for other types of respiratory therapy equipment, so some rough measurements were made with a sound meter (Simpson 886, type 2). Levels of noise produced by operating respiratory therapy equipment were measured, first in the relative quiet of the respiratory therapy department at a distance of 24 inches and then in an adult intensive care unit at the level of the