

Catheterization of Tortuous Carotid Arteries

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Not uncommonly, when cerebral angiography is performed via the femoral route, a long flexible-tip guide wire may be introduced into the appropriate vessel, but because of tortuosity of the carotid artery the catheter does not follow the guide wire. During attempts to maneuver the catheter into the carotid artery, the catheter and guide wire are displaced into the aortic arch.

To overcome this, we introduce a long flexible-tip guide wire to a level just below the carotid bifurcation. An assistant compresses the carotid artery externally with the guide wire in situ. This helps "anchor" the guide wire while the catheter is threaded over it. The guide wire being held in position allows the passage of the catheter, and the whole assembly does not retract into the arch as it would without this maneuver.

This maneuver should not be used in patients who have

atheromatous disease of the carotid artery because of the risk of dislodging a plaque. The presence of atheroma can be confirmed or excluded by aortic arch study or fluoroscopy of the common carotid artery before this maneuver. The assistant then compresses the carotid artery and the guide wire in the neck. (The assistant should wear a lead glove for protection.) During compression, fluoroscopy of the aortic arch and determination of the origin of the carotid artery can be carried out to ascertain whether the guide wire and catheter are being satisfactorily advanced into the appropriate catheter artery.

We have used this method in 23 patients without any damage to the vessel and with a 100% success rate. For this technique, we use a long flexible guide wire (Cook, TSLF 35.125) and a preshaped 5 French polyethylene catheter.

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