

IMAGES IN INTERVENTION

A Novel Quick and Easy Test for Radial Artery Occlusion With the Laser Doppler Scan

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We report the results of a laser Doppler scan (PeriScan PIM III, Perimed AB, Järfälla, Sweden) showing an ominous reduction of left-hand vascularization upon manual occlusion of the ipsilateral ulnar artery (**Fig. 1B**) compared with the resting condition (**Fig. 1A**), after a

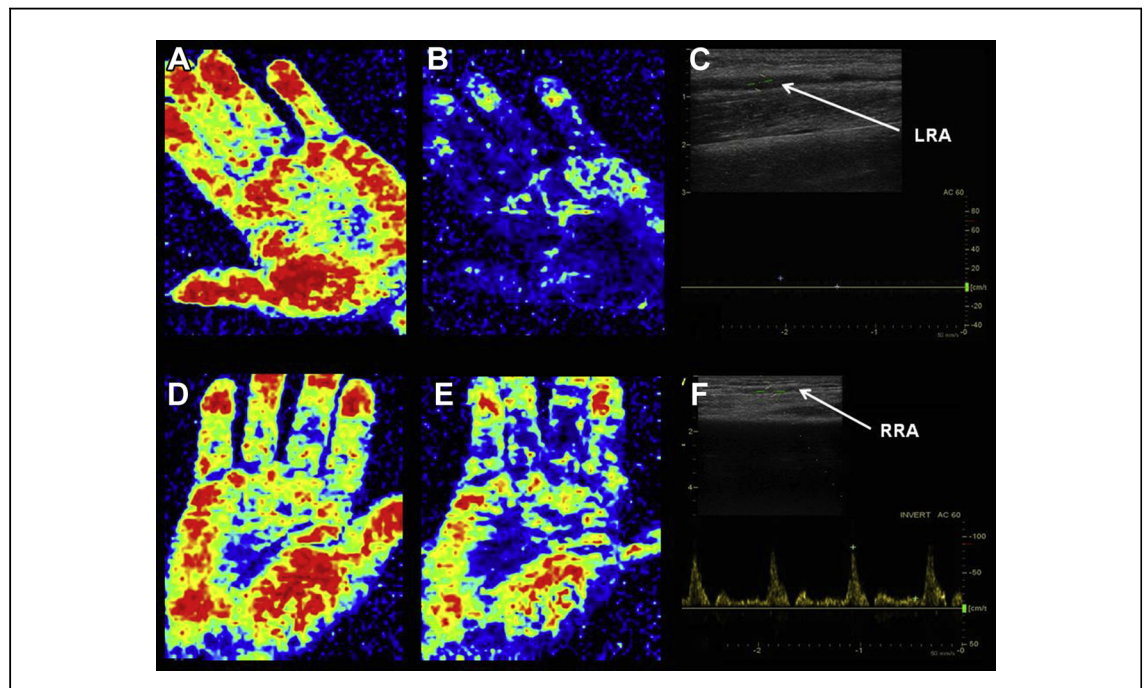


FIGURE 1 Laser Doppler and Echo Doppler Evaluation of a Radial Artery Occlusion

(A) Resting laser Doppler scan of the left hand. (B) Laser Doppler scan of the left hand showing the absence of a Doppler signal during ulnar artery occlusion ("blue hand" sign). (C) Doppler confirmation of left radial artery occlusion. (D) Resting laser Doppler scan of the right hand (control). (E) Laser Doppler scan of the right hand during complete manual ulnar artery occlusion. (F) Doppler scan of the right radial artery.

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percutaneous coronary intervention via an uncomplicated left radial access using a 6-French 25-cm long sheath (Terumo Medical Corporation, Plymouth, Massachusetts). These findings indicate right radial artery occlusion (RAO) that was confirmed with vascular Doppler scanning (**Fig. 1C**). Results of the contralateral hand are shown in the lower row as a control (**Figs. 1D through 1F**).

Despite being mostly asymptomatic, RAO is not a benign complication, and its diagnosis is frequently missed because it requires time-consuming diagnostic testing (**1,2**).

The laser Doppler scan is a novel promising noninvasive diagnostic technique that allows quick and easy diagnosis of RAO after catheterization in an

operator-independent manner. It uses a low-power laser beam and generates color maps of blood perfusion (**3**). This technique has several advantages over traditional methods: 1) blood flow is measured over the whole hand, avoiding measurement bias due to site-to-site variability; 2) it is quicker than vascular Doppler, the current standard of reference; 3) it is very simple to perform; and 4) no direct contact with the skin is required, avoiding potential artifacts.

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