CLINICAL SNAPSHOT

Look Out—A Trap in the Cardiac Cath Lab

A 76-year-old woman was referred for preoperative coronary angiography, which was performed via the right radial artery. The invasive evaluation of the severity of aortic valvular stenosis is recommended by the specialty societies in case the echocardiographic findings are inconclusive, e.g., in low-flow-low-gradient aortic valvular stenosis (evidence level 1c: strong recommendation based on expert consensus). After clinically relevant coronary heart disease had been excluded, a high gradient was surprisingly observed as the pigtail catheter was withdrawn from the left ventricle (peak-to-peak/mean gradient 147/97 mm Hg). In itself, this finding could easily have been interpreted as a consequence of severe aortic valvular stenosis, but the preceding echocardiographic Doppler study had revealed only mildly elevated gradients (Pmax/mean 29/15 mm Hg). The discrepancy was explained by aortography (*Figure*), which revealed a hemodynamically relevant stenosis of the brachiocephalic trunk. The finding arose by a summation phenomenon, in combination with radial access: because the catheter was withdrawn rapidly, only a single prestenotic aortic pressure signal was registered. Although the patient had no symptoms referable to the brachiocephalic trunk stenosis, the manometric blood pressures in her two arms differed by more than 70 mmHg (127/91 mmHg on the right, 210/80 mmHg on the left). This case underscores the fact that even an invasive study cannot be called a “gold standard” without proper attention to detail. One must always evaluate the findings critically before proceeding to treatment.

Excessively high gradient during withdrawal across the aortic valve.

Aortography reveals severe stenosis (arrow) of the brachiocephalic trunk.

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Conflict of interest statement

The authors state that they have no conflict of interest.

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