Correspondence


To the Editor:

We read with great interest the article by Kooiman et al about transradial access (TRA), which might lower the risk of acute kidney disease but also be associated with future risk particularly in high-risk patients developing chronic kidney disease (CKD).

CKD is a major cause of morbidity and mortality worldwide. It results from diverse causes; however, the most common causes of CKD are diabetes mellitus and hypertension, which are responsible for up to two thirds of CKD cases. An adequate arteriovenous fistula or graft is essential to long-term survival and quality of life for patients with end-stage CKD who are receiving hemodialysis because of its lower complication rates, lower costs, and prolonged patency.

Unfortunately, not every patient is suitable for an arteriovenous fistula. Numerous needle sticks for radial arterial monitorization or venous intravenous fluids, blood work, or medicines can damage arteries or veins over time, which can make the creation of an arteriovenous fistula impossible. Therefore, the use of duplex ultrasound for preoperative planning is currently recommended by the Kidney Disease Outcomes Quality Initiative for patients with end-stage CKD with previous fistulas or grafts, central lines, pacemakers, and previous chest or arm surgery. Indeed, diabetes mellitus is not only a high-risk factor for CKD but also considered simply a cardiovascular risk factor and also accepted as a cardiovascular disease equivalent. In addition to increasing prevalence of diabetic patients undergoing both diagnostic coronary angiography and percutaneous intervention procedures, restenosis occurred more often; more frequent reinterventions became necessary in diabetic patients. Moreover, TRA for coronary or peripheral vascular interventions has increasingly become the dominant access site in many catheterization laboratories throughout the world, because it offers greater satisfaction for the patient as a result of increased comfort and patient mobility compared with femoral artery access. The complications of TRA are not common, but 2 of the most predominant issues are radial artery occlusion and radial artery spasm. Transradial catheterization is increasingly becoming the access site of choice for many hospitals; therefore, radial artery occlusion has been observed more frequently in daily cardiology practice. Patients who are more susceptible to radial artery occlusion are those who present with peripheral vascular disease, diabetes mellitus, or repeat radial cannulations. Recently, some preventive measurements are proposed in decreasing rates of radial artery occlusion such as appropriate-dose heparin administration, patent hemostasis, avoiding vasospasms, minimizing sheath size, and removing the sheath as soon as possible.

Despite all these measurements, when this complication develops, even if it is accepted as clinically benign because of the dual blood supply to the hand, it may complicate the future use of permanent arteriovenous fistula or graft in patients at high risk of developing CKD, particularly in diabetic patients. The ramifications of this injury are important not only in patients undergoing TRA procedures but also in patients in whom the radial artery may be used as a conduit for coronary artery bypass graft surgery, particularly in diabetic patients with multivessel disease. Therefore, care should be taken to preserve the radial artery, and preferentially femoral access should be preferred to TRA when patients for whom dialysis therapy is a future possibility undergo coronary or peripheral procedures.

Disclosures

None.

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References


Letter by Ozene et al Regarding Article, "Risk of Acute Kidney Injury After Percutaneous Coronary Interventions Using Radial Versus Femoral Vascular Access: Insights From the Blue Cross Blue Shield of Michigan Cardiovascular Consortium"
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