

## Editorial



# Distal Radial Access: A ‘Less Is More’ Approach for High Bleeding Risk PCI

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The data generated in this study is available

► See the article “Feasibility of Distal Radial Access in High Bleeding Risk Patients Who Underwent Percutaneous Coronary Intervention” in volume 55 on page 291.

In interventional cardiology, innovation has steadily shifted focus from procedural success to minimizing complications, particularly in vulnerable populations. This paradigm shift led to the transition from femoral artery access to transradial access (TRA), driven by its reduced risk of vascular complications and bleeding.<sup>1)</sup> More recently, this evolution has progressed further with the adoption of distal radial access (DRA), which offers additional advantages in terms of reducing radial artery occlusion and enhancing patient safety.<sup>2-4)</sup> High bleeding risk (HBR) patients pose unique challenges, where mitigating procedure-related bleeding and vascular complications is paramount. Against this backdrop, DRA has emerged as a promising alternative to the traditional TRA, offering distinct advantages regarding safety and efficacy.

The study by Jin et al.,<sup>5)</sup> published in this issue of the *Korean Circulation Journal*, provides pivotal insights into the feasibility and safety of DRA in HBR patients undergoing percutaneous coronary intervention (PCI). Utilizing data from the KODRA registry, this multicenter, prospective cohort analysis included 1,586 patients, with 414 classified as HBR. The primary endpoint was DRA-related bleeding, and secondary endpoints encompassed overall access site complications, such as radial artery occlusion (RAO), tenderness, and swelling.

The key findings of the current study were compelling. First, after multivariable adjustment, no significant differences were observed in DRA-related bleeding (odds ratio [OR], 1.15;  $p=0.616$ ) or overall access site complications (OR, 1.08;  $p=0.761$ ) between HBR and non-HBR groups, indicating comparable safety across these populations. Second, the incidence of RAO, both distal and conventional, was remarkably low, with rates under 1% at the one-month follow-up, further reaffirming the safety of DRA. Finally, the study highlighted the clinical feasibility of DRA, even in HBR patients with anticoagulation use, coagulopathies, or other risk factors, emphasizing its utility as a reliable access option for this vulnerable population.

These results are consistent with prior findings, including the DISCO RADIAL trial and other registries, highlighting DRA's benefits, such as reduced RAO and shorter hemostasis times, without compromising procedural success.<sup>6)</sup> However, while both studies reinforce the safety and efficacy of DRA, important differences exist. The DISCO RADIAL trial was a randomized controlled trial (RCT) specifically comparing DRA to conventional TRA, while

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the current study by Jin et al.<sup>5)</sup> is a real-world observational analysis focused on HBR patients. The KODRA registry study provides valuable insight into a high-risk cohort that is often underrepresented in RCTs, thereby offering clinically relevant data that can complement the controlled conditions of prior trials.

Jin et al.'s<sup>5)</sup> findings are particularly significant as they bridge an evidence gap concerning DRA's utility in HBR populations—a group that frequently experiences complications from traditional vascular access. The distal radial artery's anatomical and physiological advantages, including a smaller diameter and its location away from the forearm's major vasculature, likely contribute to its superior safety profile.<sup>6)</sup>

However, challenges remain. The learning curve for DRA may deter its adoption, particularly in centers with limited procedural volume or training resources.<sup>7)</sup> It is also noteworthy that DRA still demonstrates a higher conversion rate to other access methods compared to TRA, reflecting the technical challenges associated with this approach.<sup>8)</sup>

While the current study adds to the growing body of evidence supporting DRA, several key questions remain unanswered. First, long-term clinical outcomes beyond the early post-procedural period should be evaluated, particularly in HBR patients, where bleeding risk persists over extended durations. Second, RCTs directly comparing DRA and TRA in high-risk cohorts are essential to provide more definitive evidence of its superiority or equivalence. Additionally, further investigation into optimal patient selection criteria, standardized training protocols, and hemostasis management strategies is warranted to ensure consistent and safe implementation of DRA in routine clinical practice. Furthermore, ongoing discussion is needed to determine the specific scenarios in which DRA or TRA may be more suitable, as a better understanding of their respective advantages could allow both access strategies to evolve complementarily rather than competitively.

In conclusion, this study reinforces DRA as a viable alternative for high-risk patients undergoing PCI, with a demonstrated potential to improve patient outcomes and procedural safety. As interventional cardiology evolves, DRA is poised to become a standard approach in HBR settings, provided adequate training and further validation studies support its broader application.

As more data emerges from ongoing studies and clinical experiences, it will be essential to establish standardized protocols and training programs to optimize the use of DRA in high-risk settings.

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