

Bridging the gaps: Insights from the 2024 ESC guidelines on peripheral arterial and aortic diseases

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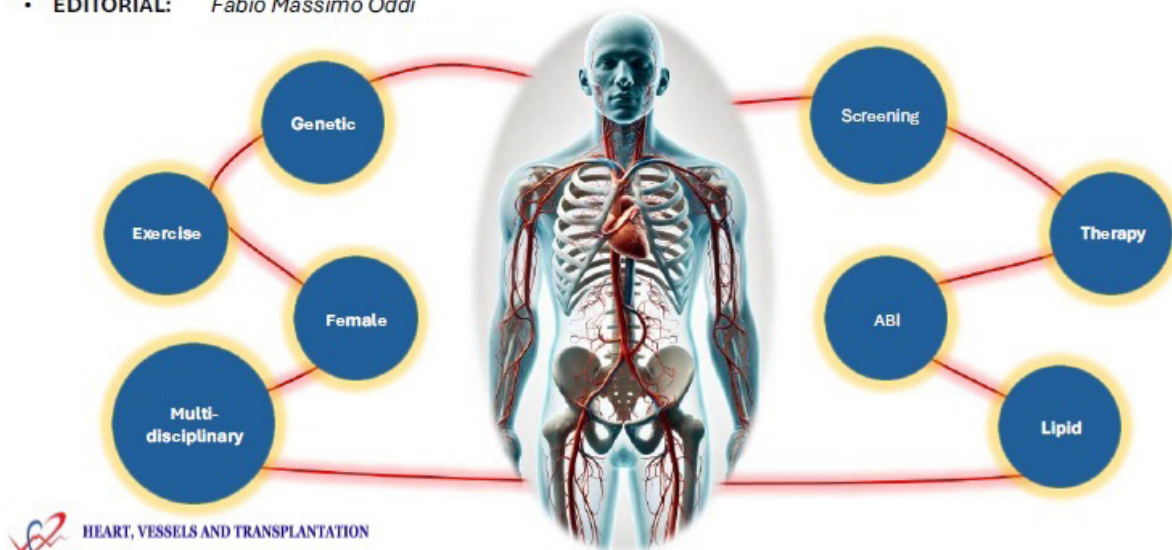
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Graphical abstract

Bridging the Gaps: Insights from the 2024 ESC Guidelines on Peripheral Arterial and Aortic Diseases

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The recent publication of the 2024 European Society of Cardiology (ESC) Guidelines for the management of peripheral arterial and aortic diseases (PAAD) marks a significant evolution in the approach to these prevalent and life-threatening conditions (1). These updated guidelines merge the previously separate recommendations for peripheral arterial diseases (PAD) (2) and aortic diseases (3), emphasizing the interconnected nature of the arterial system and the need

for holistic management strategies, concepts also highlighted in recent EACTS/STS Guidelines (4).

A comprehensive approach: What's new in 2024?

The 2024 ESC Guidelines bring several noteworthy innovations. For the first time, they advocate for a unified framework addressing the entire arterial system rather than siloed management of individual vascular territories.

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This paradigm shift reflects emerging evidence that systemic atherosclerosis and its associated risk factors impact all vascular regions simultaneously.

Key updates include:

Multidisciplinary care framework: The guidelines highlight the importance of multidisciplinary care teams comprising cardiologists, vascular surgeons, radiologists, and other specialists to ensure coordinated diagnosis, treatment, and follow-up; concepts also highlighted in recent AHA/ACC Guidelines (5).

Lifestyle interventions: Novel recommendations for lifestyle modification emphasize digital tools, such as web-based apps, to support patient education and adherence.

Advanced lipid management: New lipid-lowering goals aim for LDL-C levels below 55 mg/dL, with expanded roles for PCSK9 inhibitors in achieving these targets.

Screening and early detection: The guidelines propose expanded screening protocols, particularly for high-risk populations, including those with abdominal aortic aneurysms or multiple cardiovascular risk factors.

Endorsed innovations in aortic disease management

The 2024 guidelines also address significant advancements in aortic disease management. For instance, there is an increased focus on:

Genetic and congenital disorders: Recommendations for screening and tailored management in conditions such as Marfan and Loeys-Dietz syndromes.

Endovascular techniques: Expanded guidance on the use of minimally invasive endovascular repairs for aortic aneurysms and dissections, reflecting trends from recent clinical studies. Pre-operative planning should determine EVAR feasibility by sizing the aorto-iliac system, yet adherence to device-specific instructions remains uncertain (6).

However, there are no references to the increasingly growing complications of EVAR such as conversions, graft explantations and post-implantation syndrome (7, 8).

Endorsed innovations in peripheral artery disease management

As a novel addition, it is recommended to adopt a comprehensive approach that addresses the entire arterial circulation.

It is also proposed that ankle-brachial index (ABI) measurement is recommended as the first-line noninvasive test for screening and diagnosing PAD. In patients with exertional limb pain relieved by rest and a resting ABI >0.90, exercise testing with postexercise ABI measurements may be an alternative (9).

As a novelty, the guidelines now recommend the combination of rivaroxaban (2.5mg twice a day) and aspirin (100mg once

a day) in patients with PAD who have high ischemic risk, high-risk comorbidities, or who have undergone lower-limb revascularization, provided that their risk of bleeding is not elevated. This addition was predictable considering the increase in the use of this therapy by vascular surgeons, as demonstrated by recent surveys (10).

Optimal medical treatment in patients with symptomatic PAD includes supervised exercise training, which has the highest level of evidence.

Comparison with other guidelines

When compared to the American College of Cardiology/American Heart Association (ACC/AHA) recommendations, the ESC document stands out for its more aggressive LDL-C targets and greater emphasis on exercise therapy (9). Notably, the ACC/AHA suggests slightly higher lipid thresholds and lacks explicit directives on supervised exercise training (SET) programs for PAD patients (9).

Another unique aspect of the ESC approach is its recognition of polyvascular disease (PVD) as a distinct clinical entity requiring integrated management strategies. While ACC/AHA guidelines mention PVD, the ESC places greater emphasis on its prevalence and prognostic implications, underlining the need for comprehensive screening in these patients (9).

Remaining challenges and future directions

Despite these advancements, several gaps persist, as acknowledged in the guidelines. There remains an urgent need for robust randomized controlled trials (RCTs) in under-researched areas, such as the long-term benefits of structured exercise programs or the optimal timing of surgical interventions for chronic limb-threatening ischemia (CLTI).

Additionally, the document underscores disparities in healthcare access, particularly in low-resource settings, where comprehensive PAAD management remains a challenge. Future updates may benefit from addressing these inequalities more explicitly.

Conclusion

The 2024 ESC Guidelines set a new standard in the management of PAAD, combining evidence-based innovation with patient-centered care. By emphasizing the interconnected nature of the arterial system, advocating for aggressive preventive measures, and promoting a multidisciplinary approach, the guidelines pave the way for improved patient outcomes. As clinicians and researchers, it is our responsibility to adopt these recommendations while striving to address the challenges that remain.

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