

 VASCULAR DISEASE

Reduction in major adverse limb events in the COMPASS trial

Approximately 200 million individuals in the world have lower-extremity peripheral artery disease and are at risk of developing major adverse limb events (MALEs), defined as severe limb ischaemia leading to an intervention or major vascular amputation. An analysis of the COMPASS trial, presented at the ACC Scientific Sessions 2018 in Orlando, FL, USA, indicates that the combination of aspirin and a low-dose anticoagulant significantly reduces the incidence of MALEs in these patients.

In the multicentre, double-blind, placebo-controlled COMPASS trial, 27,395 patients with coronary or peripheral artery disease were randomly assigned to aspirin alone (100 mg once daily), rivaroxaban alone (5.0 mg twice daily), or the combination of aspirin (100 mg once daily) and rivaroxaban (2.5 mg twice daily). The main trial data have been published previously.

Of the patients enrolled in the study, 6,391 had lower-extremity peripheral artery disease. During follow-up (median 21 months), 128 patients experienced an incident MALE. The most common procedures in patients who experienced a MALE were peripheral artery angioplasty (35.9%), amputation (23.4%), bypass surgery (21.1%), and thrombectomy or embolectomy (7.8%). Patients with a MALE were at significantly increased risk of subsequent hospitalization (HR 7.21, $P < 0.0001$), vascular amputation (HR 197.5, $P < 0.0001$), and death (HR 3.23, $P < 0.001$).

Compared with aspirin alone, the combination of aspirin and low-dose rivaroxaban was associated with reductions in the rate of MALEs (2.6% versus 1.5%; HR 0.57, $P = 0.01$), all vascular amputations (1.2% versus 0.5%; HR 0.42, $P = 0.01$), peripheral vascular interventions

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(7.1% versus 5.5%; HR 0.76, $P = 0.03$), and all peripheral vascular outcomes (8.0% versus 6.2%; HR 0.76, $P = 0.02$). Compared with aspirin alone, low-dose rivaroxaban alone was associated with a nominally significant reduction in the incidence of MALEs, but no significant reductions in total or major vascular amputations.

“The COMPASS data demonstrate prevention of both MACE [major adverse cardiovascular event] and MALE outcomes with a combination low-dose oral anticoagulant rivaroxaban with aspirin,” conclude the investigators. “This combination therapy should be considered for patients with peripheral artery disease to prevent MALE, and to reduce peripheral vascular interventions.”

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ORIGINAL ARTICLE Anand, S. S. *et al.* Major adverse limb events in lower extremity peripheral artery disease: COMPASS trial. *J. Am. Coll. Cardiol.* <https://doi.org/10.1016/j.jacc.2018.03.008> (2018)

FURTHER READING Fowkes, F. G. R. *et al.* Peripheral artery disease: epidemiology and global perspectives. *Nat. Rev. Cardiol.* **14**, 156–170 (2017)

