THROMBOSIS

Surgical stockings do not prevent thrombosis after stroke

Thigh-length graduated compression stockings offer no additional benefit over routine care for the prevention of deep vein thrombosis after stroke, the CLOTS (Clots in Legs Or sTockings after Stroke) trial 1 has found. “I think we have fairly conclusively demonstrated that [the stockings] do not have a clinically useful effect on risk of deep vein thrombosis,” says researcher Martin Dennis, from the University of Edinburgh, UK.

“...national stroke guidelines recommending the use of graduated compression stockings need to be updated”

Graduated compression stockings have been shown to reduce deep vein thrombosis in patients undergoing surgery. Patients diagnosed with stroke are often immobile; this lack of movement contributes to the development of deep vein thrombosis and pulmonary embolism. Prophylaxis with anticoagulants is not always suitable as these drugs can cause excess bleeding events. Both the American Stroke Association and draft UK National Institute for Health and Clinical Excellence guidelines recommend the use of thigh-length graduated compression stockings for patients diagnosed with stroke. The aim of the CLOTS trial 1 was

to assess whether these stockings reduce the occurrence of deep vein thrombosis after stroke.

A total of 2,518 patients who were hospitalized within 1 week of an acute stroke and were immobile were enrolled from 64 medical centers in the UK, Australia, and Italy. Participants were randomly assigned to receive routine care with or without thigh-length graduated compression stockings (1,256 and 1,262 patients, respectively). No sizeable differences were observed in the rates of deep vein thrombosis between groups. Adverse events were, however, notably more frequent in the stocking group, with a fourfold increase in blisters, skin ulcers, skin breaks, and necrosis, and a minor increase in lower-limb ischemia in comparison with patients assigned to routine care without stockings.

The researchers suggest that the discrepancy between the effectiveness of graduated compression stockings for patients with stroke and patients undergoing surgery is a reflection of the differences in the two groups of patients. For example, patients undergoing surgery can be given stockings before, during, or immediately after surgery, whereas patients with stroke might be immobile for a long period before being given stockings, rapid provision of which is infeasible. Alternatively, leg weakness associated with stroke might prevent the stockings from improving the efficiency of the calf muscle. However, the investigators observed

no difference in effectiveness for patients with weakness versus patients with residual movement.

Data from the CLOTS trial 1 indicate that national stroke guidelines recommending the use of graduated compression stockings need to be updated, and alternative methods of deep vein thrombosis prophylaxis warrant further study.

Lisa Richards

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