

The effect of medical compression stockings and leg elevation on local inflammatory biomarkers in healthy subjects & CVI patients.



STUDY AIM & DESIGN

The aim of this study was to assess the differential effects of gravitational stress, compression therapy and leg elevation on local inflammation.

To this end, the levels of three inflammatory biomarkers (matrix metalloproteinases, annexin V, microparticles) were measured in healthy subjects and CVI patients following three separate conditions: standing without compression, standing with compression, and lying without compression.

PARTICIPANTS

14 healthy subjects (C0-1, "volunteers") and 14 patients with advanced CVI (C4a-b, "patients") were enrolled in the study.

ABBREVIATIONS

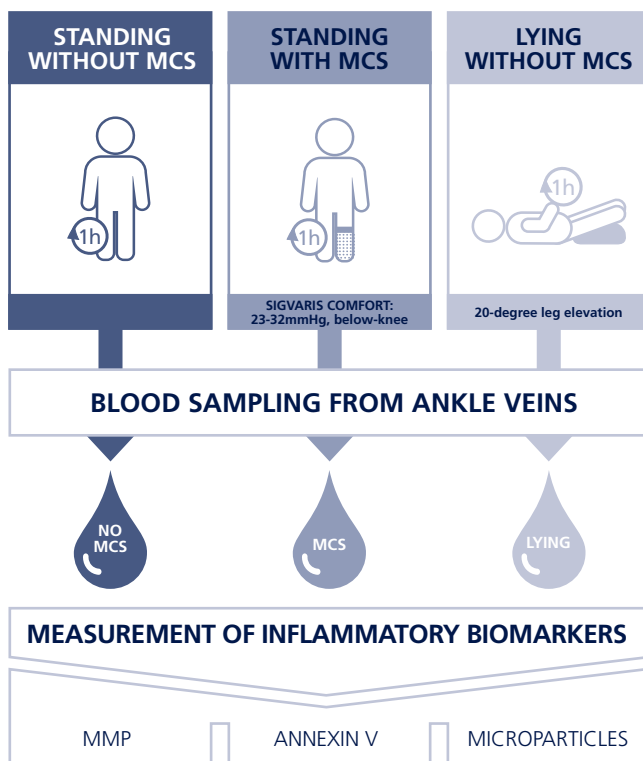
- AV** annexin V
- CVI** chronic venous insufficiency
- MCS** medical compression stockings
- MiPa** microparticles
- MMP** matrix metalloproteinases



EXPERIMENTAL PROCEDURE

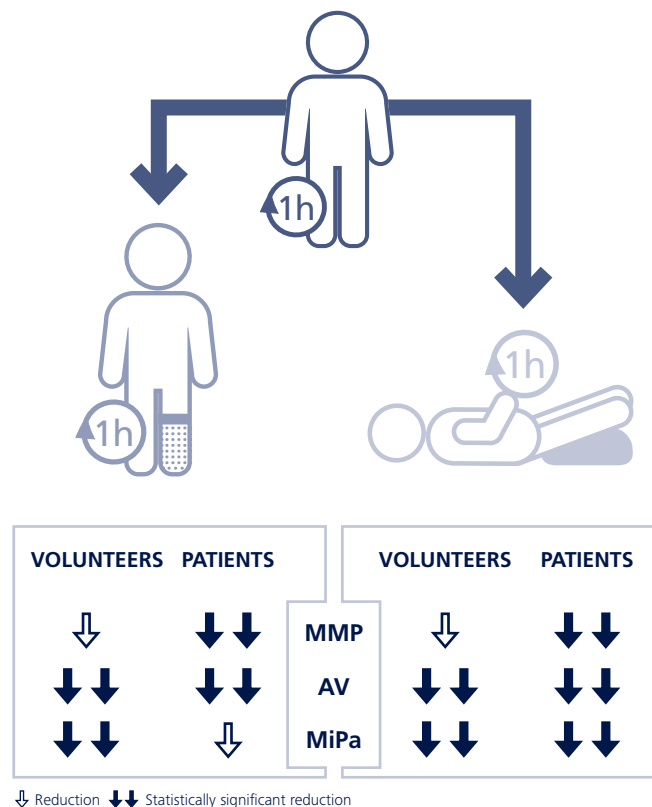
THREE SEPARATE CONDITIONS

EACH SUBJECT ACTED AS HIS / HER OWN CONTROL



RESULTS

ENDPOINT: LEVELS OF INFLAMMATORY BIOMARKERS



CONCLUSION

MMP, annexin V and microparticle concentrations were reduced in healthy volunteers and CVI patients following compression and leg elevation, when compared to standing without compression.

TAKE-HOME MESSAGE

Compression therapy and leg elevation may protect against local inflammation induced by gravitational stress.

Reference: Validation of a gravitational model to study local endogenous biomarkers in chronic venous insufficiency. Lattimer CR, Fareed J, Hoppensteadt D, Maia P, Ligi D, Mannello F, Kalodiki E. Eur J Vasc Endovasc Surg. 2018. <https://doi.org/10.1016/j.ejvs.2018.08.004>.