BIBLIOGRAFIA -> NEWS SIF Marzo 2023
(a cura di Augusto Farina)

- Jürgen H Prochaska, Natalie Arnold, Andrea Falcke, Sabrina Kopp, Andreas Schulz, Gregor Buch, Sophie Moll, Marina Panova-Noeva, Claus Jünger, Lisa Eggebrecht

Show more Chronic venous insufficiency, cardiovascular disease, and mortality: a population study.
European Heart Journal, Volume 42, Issue 40, 21 October 2021, Pages 4157-4165
https://doi.org/10.1093/eurheartj/ehab495

Aims:
Evidence regarding the health burden of chronic venous insufficiency (CVI), its clinical determinants, and impact on outcome is scarce.
Methods and results
Systematic phenotyping of CVI according to established CEAP (Clinical-Etiologic-Anatomic-Pathophysiologic) classification was performed in 12 423 participants (age range: 40–80 years) of the Gutenberg Health Study from April 2012 to April 2017. Prevalence was calculated age- and sex-specifically. Multivariable Poisson regression models were calculated to evaluate the relation of CVI with cardiovascular comorbidities. Survival analyses were carried out to assess the CVI-associated risk of death. Replication of findings was done in an independent cohort study (MyoVasc, NCT04064450). The prevalence of telangiectasia/reticular, varicose veins, and CVI was 36.5% [95% confidence interval (CI), 35.6–37.4%], 13.3% [12.6–13.9%], and 40.8% [39.9–41.7%], respectively. Age, female sex, arterial hypertension, obesity, smoking, and clinically overt cardiovascular disease were identified as clinical determinants of CVI. Higher CEAP classes were associated with a higher predicted 10-year risk for incident cardiovascular disease in individuals free of cardiovascular disease (n = 9923). During a mean follow-up of 6.4 ± 1.6 years, CVI was a strong predictor of all-cause death independent of the concomitant clinical profile and medication [hazard ratio (HR) 1.46 (95% CI 1.19–1.79), P = 0. 0003]. The association of CVI with an increased risk of all-cause death was externally validated in the MyoVasc cohort [HR 1.51 (95% CI 1.11–2.05), P = 0.009].
Conclusion
Chronic venous insufficiency is highly prevalent in the population and is associated with the presence of cardiovascular risk factors and disease. Individuals with CVI experience an elevated risk of death, which is independent of age and sex, and present cardiovascular risk factors and comorbidities.

- Ritengo questo articolo molto interessante ed importante per l'evidenza di connessione tra patologia arteriosa e venosa, soprattutto per le classi CEAP maggiori, da componete infiammatoria.

- Walter Ageno , Lorenza Bertù , Eugenio Bucherini Giuseppe Camporese Francesco Dentali Matteo Iotti Gianfranco Lessiani , Roberto Parisi Paolo Prandoni Michelangelo Sartori , Adriana Visonà , Elisabetta Bigagli , Gualtiero Palareti; RIDTS study group Collaborators.
  Rivaroxaban treatment for six weeks versus three months in patients with symptomatic isolated distal deep vein thrombosis: randomised controlled trial.
  BMJ.2022 Nov 23;379:e072623.doi: 10.1136/bmj-2022-072623.

Objective: To compare two different treatment durations of rivaroxaban in patients with symptomatic isolated distal deep vein thrombosis (DVT).
Design: Randomised, double blind, placebo controlled clinical trial.
Setting: 28 outpatient clinics specialising in venous thromboembolism.
Participants: 402 adults (≥18 years) with symptomatic isolated distal DVT.
Interventions: After receiving standard dose rivaroxaban for six weeks, participants were randomly assigned to receive rivaroxaban 20 mg or placebo once daily for an additional six weeks. Follow-up was for 24 months from study inclusion.
Main outcomes measures: The primary efficacy outcome was recurrent venous thromboembolism during

follow-up after randomisation, defined as the composite of progression of isolated distal DVT, recurrent isolated distal DVT, proximal DVT, symptomatic pulmonary embolism, or fatal pulmonary embolism. The primary safety outcome was major bleeding after randomisation until two days from the last dose of rivaroxaban or placebo. An independent committee adjudicated the outcomes.
Results: 200 adults were randomised to receive additional rivaroxaban treatment and 202 to receive placebo. Isolated distal DVT was unprovoked in 81 (40%) and 86 (43%) patients, respectively. The primary efficacy outcome occurred in 23 (11%) patients in the rivaroxaban arm and 39 (19%) in the placebo arm (relative risk 0.59, 95% confidence interval 0.36 to 0.95; P=0.03, number needed to treat 13, 95% confidence interval 7 to 126). Recurrent isolated distal DVT occurred in 16 (8%) patients in the rivaroxaban arm and 31 (15%) in the placebo arm (P=0.02). Proximal DVT or pulmonary embolism occurred in seven (3%) patients in the rivaroxaban arm and eight (4%) in the placebo arm (P=0.80). No major bleeding events occurred.
Conclusions: Rivaroxaban administered for six additional weeks in patients with isolated distal DVT who had an uneventful six week treatment course reduces the risk of recurrent venous thromboembolism, mainly recurrent isolated distal DVT, over a two year follow-up without increasing the risk of haemorrhage.
Trial registration: EudraCT 2016-000958-36; ClinicalTrials.gov NCT02722447.

- **International Angiology 2023 Feb 16. DOI: 10.23736/S0392-9590.23.04957-X**

Adjustable compression wraps: stretch, interface pressures and static stiffness indices

Jean-Patrick BENIGNI , Jean-François UHL, Pascal FILORI, Florence BALET, Liliane PENOEL

BACKGROUND: Adjustable compression wraps (ACWs) may represent the future of compression for the treatment of the most severe stages of chronic venous diseases and lymphedema. We tested in five healthy subjects: Coolflex® from Sigvaris®; Juzo wrap 6000®, Readywrap® from Lohmann Rauscher®; Juxtafit® and Juxtalite® from Medi®, Compreflex® from Sigvaris®. The objective of this pilot study was to study the stretch, interface pressures, and Static Stiffness Index (SSI) of the six ACWs applied to the leg.
METHODS: The stretch was evaluated by stretching the ACWs to their maximum length. Interface pressure measurements were performed using a PicoPress® transducer and a probe placed at point B1. Interface pressures were measured in the supine resting position and in the standing position. We calculated the SSI. We started the measurements at 20 mmHg in the supine position and increased the pressures by 5 mmHg to 5 mmHg.
RESULTS: Coolflex® (inelastic ACW) cannot exceed a maximum pressure of 30 mmHg at rest with a maximum SSI of approximately 30 mmHg. Juzo wrap 6000® (a 50% stretch) and Readywrap® (a 60% stretch) have a profile of stiffness very near one to the other. The optimal stiffness for Juzo is from 16 mmHg to of 30 mmHg for a resting pressure between 25 mmHg and 40 mmHg. For Readywrap, the optimal stiffness is from 17 mmHg to 30 mmHg with a maximum SSI of 35mmHg. The optimal application zone of this wrap at rest is 30 to 45 mmHg. Juxtafit®, Juxtalite® and Compreflex® (respectively 70%, 80%, 124% stretch) can be applied with pressures above 60 mmHg but with maximum SSI of 20 mmHg for Circaid® and>30 mmHg for Compreflex®.
CONCLUSIONS: This pilot study allows us to propose a classification of wraps according to their stretch: inelastic ACW and short or long stretch ACW (50-60% and 70%, 80%, and 124% stretch). Their stretch and stiffness could help to better determine what could be expected of ACWs in clinical practice.

- **International Angiology 2023 Feb 16. DOI: 10.23736/S0392-9590.23.04944-1**

The comparison of graduated compression stockings of different length and pressure gradients combined with ankle pump movement on femoral vein blood velocity: a pilot study

Fan YANG, Dingyi WANG, Guohui FAN, Tingting ZHAO, Wei WANG, Yaping XU *

BACKGROUND: Graduated compression stocking (GCS) is one the most widely used intervention methods in decreasing venous stasis and preventing deep venous thrombosis in hospital patients. However, changes of femoral vein speed after using GCS, combining ankle pump movement or not, and the efficacy difference of GCS among brands are still unclear.

METHODS: In this single-center cross-sectional study, healthy participants were assigned to wear one of the three different GCSs (type A, B and C) on both legs. Type B was with lower compressions at popliteal fossa, middle thigh and upper thigh, compared with type A and C. Blood flow velocity of femoral veins was measured with a Doppler ultrasound scanner in the following four conditions: Lying, ankle pump movement, wearing GCS, and GCS combining ankle pump movement. The differences of femoral vein velocity between conditions in each GCS type, and differences of femoral vein velocity changes between GCS type B and type C were compared, respectively.
RESULTS: A total of 26 participants enrolled and 6 wore type A, 10 wore type B and 10 wore type C GCS. Compared with lying, participants wearing type B GCS had significant higher left femoral vein peak velocity (PVL) and left femoral vein trough velocity (TVL) (absolute difference [AD] 10.63, 95% confidence interval [95% CI] 3.17-18.09, P=0.0210; AD 8.65, 95% CI: 2.84-14.46, P=0.0171, respectively). Compared with ankle pump movement only, TVL significantly increased in participants wearing type B GCS and so did right femoral vein trough velocity (TVR) in in participants wearing type C GCS. Comparing with lying, the AD of PVL was significantly higher in participants wearing type B GCS than those wearing type C GCS (10.63±12.03 *vs.* -0.23±8.89, P<0.05).
CONCLUSIONS: GCS with lower compressions at popliteal fossa, middle thigh and upper thigh was related with higher femoral vein velocity. Femoral vein velocity of left leg increased much more than that of right leg in participants wearing GCS with/without ankle pump movement. Further investigations are needed to translate the herein reported hemodynamic effect of different compression dosages into a potentially different clinical benefit.

- **International Angiology 2023 February;42(1):45-58**

The First Latin American Consensus on Superficial and Perforating Venous Mapping

Oscar BOTTINI *, Fanny RODRIGUEZ SANTOS, Alejandro BORODA, Franco ARIAS, Daniela CALCINA, Chantal AGÜERO WAGNER, Lorena GRILLO, Mariuxi MORALES BAZURTO, Fabricio SANTIAGO, Juan NIGRO, Marcelo MORALES, Martín FERREYRA, Alexis PEREA ANSINELLI, Monserrat DIAZ, Jorge SEGURA, Martín MAZZURCO, Guillermo DIEZ, Eduardo HALUSCH, José OVELAR, Luis PARROTTA, Jorge FERNANDEZ, Miguel AVRAMOVIC, Jorge RÍOS, Alexis ESPOSITO, Hector ALFONSO, Emilio DESJARDINS, Luis ARIAS, Edwaldo JOVILIANO, Eduardo TOLEDO DE AGUIAR, Jorgete BARRETO dos SANTOS, Alvaro ORREGO, Juan BOMBÍN, Ismael PIZARRO, Javier CABEZAS, Rafael MANOSALVAS, Victor VILLOTA, Luis RODRIGUEZ, Alberto MARTÍNEZ GRANADOS, José MÉRIDA, Daniel GARCÍA BERNARD, Javier SERRALDE, Fernando VEGA RASGADO, Eloy TEIXEIRA, Roberto FILIZZOLA, Roberto CORBETA, Roy BENITO, Juan CHUNGA PRIETO, Tomás RIVERA, Mauricio VOLPI, Sebastián SARUTTE, Paola ORTIZ, Alfredo PREGO, Hugo NAVAS, Tomás ALBERTI, Daniel GUGLIELMONE, Raúl MEJÍA, Carlos SIMKIN, Ernesto INTRIAGO, Juan BERCOVICH

With the aim of obtaining a map which is useful as a diagnostic tool and therapeutical orientation, complementing the written report of duplex ultrasound venous study, Latin-American Scientific Societies of Phlebology, Vascular Surgery and Vascular Imaging were invited to participate, through their regional representatives, to the First Consensus of Superficial and Perforating Venous Mapping. A consensus process using a modified Delphi method was carried out. An International Working Group was formed, which developed a Prototype of the Venous Mapping that worked as a starting point for consensus, and was presented in a first virtual meeting of 54 experts (societies' representatives) when the methodology was explained. For the consensus process, two rounds of self-administrated questionnaires with feedback were used. In the first questionnaire a 100% consensus was obtained in the 15 statements (an agreement range of 85.2% to 100%) In the analysis of qualitative data, three categories according to the actions to implement were identified - actions which involved no action, minor changes and major changes. This analysis was used to build the second questionnaire, which reached a consensus in its six statements (agreement range of 87.1% to 98.1%). A final consensus on every field proposed was established with the approval of all the experts consulted and it was presented at a third online meeting. The document of the superficial and perforating venous mapping reached by consensus is presented hereafter.

- Serge Couzan, Jean-François Pouget, Claire Le Hello, Céline Chapelle Silvy Laporte, Patrick Mismetti **High tolerance of progressive elastic compression in peripheral arterial disease** VASA 2019 Aug;48(5):413-417. doi: 10.1024/0301-1526/a000799. Epub 2019 Jun 4.

Background: Theoretically progressive compression stockings, which produce a higher compression at the calf than at the ankle level, improve venous return flow without exacerbating peripheral arterial insufficiency (PAD). We aimed to evaluate the short-term tolerance of elastic progressive compression stockings on peripheral arterial vascularisation in patients with symptomatic PAD and associated mild venous insufficiency. *Patients and methods:* Monocentric, prosp
ective, open pilot study of 18 patients (acceptability study, 6 x 6 plan) evaluating the short-term tolerance of progressive compression stockings (18 ± 2 mmHg at calf and 8 ± 2 mmHg at ankle level) in patients with PAD (ankle brachial index ABI > 0.60 < 0.75) and chronic venous insufficiency (C1s-C4 stages of the CEAP classification). Day 15 tolerance was evaluated by a composite primary criteria comprising: no decrease > 15 % of ABI on each side, no decrease > 15 % of toe brachial index (TBI) on each side and no decrease > 25 % of the number of active plantar flexions performed while standing. *Results:* The proportion of men was 77.8 %, mean age was 77.3 ± 7.5 years and no patient were diabetic. At inclusion, the mean low ABI was 0.60 ± 0.04 and the mean high ABI was 0.77 ± 0.18. The mean low TBI was 0.32 ± 0.09 and the mean high TBI 0.46 ± 0.15. The mean number of active standing plantar flexions was 33.0 ± 5.0. The majority of the patients were classified in CEAP C2s and C3 classes (class 2: 16.7 %, class C2s: 27.8 %, class C3: 44.4 %, class C4: 5.6 % and class C4s: 5.6 %). Poor tolerance occurred in no patient. By day 30, no patient had worsening of their arterial and venous symptoms. No adverse events occurred during the study. Conclusions: These results suggest a high tolerance of progressive elastic stockings (18 ± 2 mmHg at calf and 8 ± 2 mmHg at ankle level) in symptomatic PAD.