Graduated compression in pelvic venous disease

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ABSTRACT

Pelvic venous disease (PeVD) are a not rare cause of venous insufficiency in the leg that is frequently underestimated and poorly managed. Graduated compression stockings (GCSs) represents a pillar in lower limb chronic venous disease (CVD). Despite these first two considerations, clear GCS indications in PeVD are still missing due to the lack of literature data on this topic. In the present short report, we offer an insight on the topic and the potential rationale for GCS use in PeVD.

Keywords: Compression, pelvic, venous.

AVAILABLE LITERATURE

To the best of our knowledge, the only available paper dealing with the topic of GCS use in PeVD management is the one of Gavrilov et al. This study included 74 PeVD patients in three groups. The first group included 48 cases of PeVD without lower limb CVD to whom a Class II compression short was given (from the waist to the upper third of the thigh). The second group included 14 PeVD patients without pelvic pain, but with vulvar and lower limb varicose veins, receiving Class II compression shorts along with not precisely defined stockings. The third group included 12 symptomatic PeVD patients without lower limb varicose veins, receiving Class II compression shorts along with not precisely defined stockings. Compression was kept for 14 days, without specifying the timing and without assessing the exact dosing. The main outcome measure
was the pelvic pain change, although the second group was reported to be asymptomatic. Instrumental evaluation was also performed by radionuclide venography (RV) and emission computed tomography (ECT). While the first two groups reported both a clinical and instrumental benefit, the third group did not. The investigation is of extreme importance in its pioneering approach, whereas several potential biases should be pointed out in our opinion. First, the study population was, indeed, extremely limited in number and potentially greatly heterogenous in terms of hemodynamic overload. Second, no clear analysis was performed in the lifestyle along the 14 days of observation for which significantly different outcomes may have been produced. Third, the authors reported the use of Class II stockings, which could mean different mmHg values based on the classification used and not specified in the manuscript. Moreover, no interface pressure measurement was performed to confirm the real pressure exerted. This is of particular importance, particularly for the waist area where different body shapes may lead to different pressure gradients. Finally, compliance to compression was not assessed, making the outcome at 14 days questionable.

In conclusion, the study is to be congratulated for paving the way for further investigations; however, in our opinion, currently it cannot be used to give significant indications in everyday GCS use in PeVD patients.

POSSIBLE RATIONALE OF GCS USE IN PELVIC VENOUS DISEASE

The same Gavrilov's research group published another interesting paper on PeVD influence on lower limb symptoms, demonstrating a higher risk of leg pain (odds ratio [OR]: 4.23; 95% confidence interval [CI]: 1.57-11.39), edema (OR: 7.42; 95% CI: 2.23-24.78) and heaviness (OR: 5.3; 95% CI: 1.85-15.07) in these patients. Interestingly, the literature review reveals GCS efficacy in the control of all these conditions.[9-11] Clearly, appropriate compression must be used to obtain valuable results. Dosing compression may have a fundamental role, as per the Lattimer et al.'s study[12] showing a GCS dose dependent effect in leg outflow increasing.

Correct sizing and interface pressure measurement is also critical. Indeed, according to a previous publication of our research group, the limb shape may affect the graduated pressure profile.[13] The same publication demonstrated edema control even in healthy subjects exposed to prolonged occupational standing. In this context, GCS may become particularly useful in counteracting a swelling that can find a double origin in both the environmental and pelvic overload.[13]

In conclusion, a detailed analysis of the potential GCS benefit and of the related costs in PeVD management is needed before delivering whatever indication concerned. Yet, considering the GCS safety profiles and the related risk/benefit analysis,[14] GCS should receive immediate attention in this important, but still underestimated topic of PeVD and related CVD management.

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