Table. Subcutaneous and intramuscular tissue pressures, mmHg

Groups/tissue pressures	*A Normal limbs*	*B Primary vv (C1-4)*	*C Primary vv (5-6)*	*D Secondary vv (C2-4)*	*E Secondary vv (C5-6)*	*F Chronic iliac vein obstruction*
N, limbs	10	18	45	12	26	8
Subcutaneous tissue P, mmHg	0.2 ± 1.2	7.8 ± 3.2	9.4 ± 2.7	14.2 ± 4.3	17.2 ± 9.1	15.6 ± 8.1
Intramuscular tissue P, mmHg	9.2 ± 4.9	12.2 ± 4.2	21.0 ± 4.0	15.9 ± 4.9	28.4 ± 6.2	34.1 ± 8.1

healthy limbs, $P < .001$. The more severe the disease the higher was the subcutaneous tissue pressure. The intramuscular tissue pressure was significantly higher in Group C-F ($P < .001$), and Group E had significantly higher intramuscular pressures compared with Group C. Group F had the highest intramuscular pressures of all groups.

Conclusions: The subcutaneous tissue pressure is significantly elevated in limbs with symptomatic varicose veins, and increases with disease severity. The highest intramuscular tissue pressure was seen in obstructive venous disease, but was also significantly increased in C5-6 patients more importantly in the C5-6 post-thrombotic limbs. An excellent correlation between tissue pressures and disease severity was documented.

Use of Compression Therapy in Patients with Chronic Venous Insufficiency Undergoing Ablation Therapy: A Report from the American Venous Registry

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Background: Compression therapy is an accepted and proven therapy for patients with chronic venous insufficiency. Although widely recommended and commonly used before and following venous ablation procedures, there is limited consensus on the type, duration, and need for such therapy. We analyzed data from the American Venous Registry (AVR) to evaluate the frequency, type, and duration of compression therapy utilized before and after endovenous ablation across the United States.

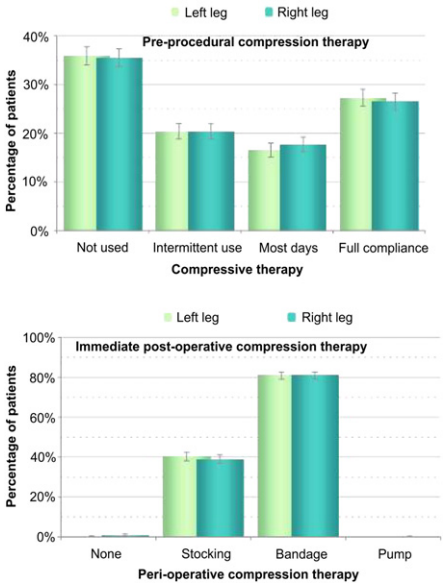

Fig.

Methods: The varicose vein (VV) module is a web-based database and registry of the AVR, which was begun in February 2011. Data collected included pre- and postprocedural use of compression therapy, baseline and postprocedural venous clinical severity score (VCSS), and type of venous ablation procedure. Information on the type of compression device (multi-layered bandage, elastic, pump), duration of use (day, or day and night), extent (knee, thigh, pantyhose), and strength (<20, 20-30, 30-40, 40-50 mm Hg) was also collected and reviewed.

Results: A total of 4014 procedures were entered into the database by 41 physicians from 37 medical centers, comprising 3930 patients. The types of procedures included endovenous laser ablation in 60%, phlebectomies in 34%, radiofrequency ablation in 33%, and sclerotherapy in 16%, with 37% of treatments involving more than one modality. Only 26% of patients were compliant (daily use) with compression therapy prior to vein ablation. In the perioperative period (within 48 hours postprocedure), 95% of patients used some form of compression therapy both day and night; the majority (80%) used a thigh-high multilayered bandage. Beyond 48 hours postprocedure, 98% of patients used 30-40 mm Hg thigh-high compression during the daytime. Clinical improvement as demonstrated by an increase in the VCSS score of three or more was seen in 62%, while 23% improved their score by one to two, and the remaining 15% of patients had no improvement in VCSS score after treatment.

Conclusions: Only a minority of patients undergoing venous ablation therapy use compression therapy on a daily basis before the procedure. Almost all, however, were compliant in the perioperative and immediate postsurgical time period. Clinical outcomes, as reflected in improved VCSS scores, were excellent.

The Role of Duplex Ultrasound in the Pelvic Congestion Syndrome Workup

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Background: The diagnosis of pelvic congestion syndrome (PCS) is primarily based upon clinical findings that are often confirmed by imaging studies. Up to now, PCS imaging workup algorithms are not well-defined. The purpose of our study is to gauge the impact and accuracy of duplex ultrasound (DU) to assist in the diagnosis of PCS.

Methods: We reviewed the records of 48 patients with PCS seen at our Vein Center from June 2010 to June 2012. All patients had DU plus either computed tomography venogram (CTV) or conventional venogram (CV). Measurements of the left and right ovarian vein diameter, and the presence or absence of ovarian vein reflux were obtained using DU and compared with either CTV or CV to assess sensitivity and specificity. An ovarian vein diameter > 6 mm was considered abnormal. The presence of pelvic varicosities was assessed as well.

Results: All patients were female, with 29 Caucasians, 18 Hispanics, and 1 Asian. The mean number of children was three (range, 1 to 5). All but three patients had lower extremity varicose veins, and 14 (29%) had vulvar varicosities. Thirty-four (71%) patients reported pelvic pain, 22(46%) dyspareunia, 2 (4%) dysuria, and 1 (2%) hematuria. The mean diameter of the left and right ovarian vein measured using DUS compared with either CTV/CV were similar (DUS, 8.6 and 5.6; CTV/CV, 8.3 and 6). The sensitivity and specificity of DU to demonstrate a dilated left and right ovarian vein was 86% and 57%, and 67% and 90%. Pelvic varicosities were identified in all but one patient with perfect correlation between DU and CTV/CV.

Conclusions: DU has a moderate to high sensitivity and specificity to identify an abnormal ovarian vein diameter. All three imaging modalities are equally accurate to show the presence of pelvic varices. DU has a high accuracy when both pelvic varices and ovarian vein are considered together in selecting patients for treatment.