routine after open varicose vein surgery, has been extended to endovenous procedures. There is, however, no robust evidence to support this practice. This study comparatively evaluated the outcome with and without postoperative compression after RFA.

Methods: This single-center prospective randomized controlled trial recruited adult patients undergoing RFA into two groups (A, compression stocking for 2 weeks; B, no compression). Duplex ultrasound scan was performed at 2 weeks, but the primary outcome was successful obliteration of target vein as determined by duplex ultrasound scan at 12 to 14 weeks. Secondary outcome measures included quality of life scores (Aberdeen Varicose Vein Symptom Severity [AVVSS] score and Venous Clinical Severity Score [VCSS]), patient satisfaction, and complications. To detect 2.5% difference in success rate between the groups, assuming 90% power and a type I error of 5%, a minimum of 39 patients were required in each arm. Stata 15 (StataCorp, College Station, Tex) was used to perform statistical analysis. Ethical approval was granted by Regional NHS National Research Ethics Service. The study was registered with ISRCTN (Registration No.: 18119345).

Results: In total, 100 patients were recruited (group A, 51; group B, 49), with no significance difference in age, sex, clinical class, mean AVVSS score (17.7 vs 15.7), and VCSS (10.2 vs 10.4) between groups. At 2 weeks, the occlusion rate of the target vein was similar in both groups at 96.1% and 95.9%, respectively, with no significant change at 12 weeks. There was no significant difference in the incidence of deep venous thrombosis. One patient in each group did not achieve vein occlusion, and three patients in each group did not attend for the final ultrasound scan. There was no statistical difference in mean AVVSS score (5.7 vs 5.0) and mean VCSS (3.2 vs 3.7) score at 12 weeks. Of the 93 patients who returned their satisfaction survey, 97% would recommend the RFA procedure, and this did not differ between groups.

Conclusions: The outcome of RFA without post-treatment compression is no worse than with compression. Use of compression after RFA did not improve success rate, quality of life scores or patient satisfaction, or postoperative complications. It may be concluded that the widely practiced use of compression after RFA adds no clinical benefit for the patients.

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Serum ^{1}H Nuclear Magnetic Resonance Metabolomic Profiling in Acute Deep Venous Thrombosis

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Background: Deep venous thrombosis (DVT) biomarker research is an area of great interest, given the significant morbidity and mortality associated with the disease. High-throughput metabolomic profiling of circulating metabolites has emerged as a promising method in biomarker research. An untargeted metabolic profiling approach using ^{1}H nuclear magnetic resonance spectroscopy may reveal possible diagnostic biomarkers of acute DVT.

Methods: Comprehensive untargeted metabolic profiling of serum of patients with acute DVT (DVT+) compared with serum of patients with similar symptoms and excluded DVT (DVT−) and nonsymptomatic volunteers (controls) was undertaken using ^{1}H nuclear magnetic resonance spectroscopy. Multivariate analysis including principal component analysis and orthogonal partial least squares discriminant analysis was performed to assess whether there was a differential metabolic profile in comparing serum of DVT patients and controls, followed by univariate analysis to identify possible compounds responsible for any difference between the groups.

Results: In total, 121 patients were included in the study: 41 DVT+ patients, 40 controls, and 40 DVT− patients. Multivariate analysis of the blood samples showed a differential metabolic profiling in comparing the serum of DVT+ patients with that of controls (R^2 = 0.806; Q^2 = 0.352) or DVT− patients (R^2 = 0.848; Q^2 = 0.199). Univariate analysis showed that the compounds responsible for the metabolic difference between DVT+ and controls were *N*-acetylglucosamines, histidine, tyrosine, alanine, choline and lipids. *N*-Acetylglucosamine was also driving the metabolic difference between DVT+ and DVT− groups.

Conclusions: The study proves the presence of a specific metabolic signature of acute DVT and utility of a metabolomic approach to identify possible diagnostic DVT biomarkers in serum.

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Risk of Acute Kidney Injury with Intervention for Acute Deep Venous Thrombosis

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Objective: The treatment of acute deep venous thrombosis (DVT) continues to evolve. Whereas catheter-directed thrombolysis with mechanical thrombectomy has been used to treat patients successfully, such treatment regimens carry an inherent risk of nephropathy that has yet to be quantified. The goal of this study was to determine the risk of acute kidney injury in patients treated for acute DVT with mechanical thrombectomy and lysis.

Methods: A retrospective review of prospectively collected data was conducted for 152 patients presenting to the two hospitals in Albany, New York, where lysis is performed by the Vascular Group, a large single-specialty vascular surgery group composed of board-certified vascular surgeons. Data collection included demographics, preprocedural and postprocedural creatinine concentration and glomerular filtration rate (GFR), number of interventions within the acute episode, total contrast material dose, adjuvant procedures, and anatomic location of the DVT. All interventions were performed by vascular surgeons adept at evaluation and endogenous treatment. Decisions about initiation of therapy and method of intervention were made at the discretion of the treating surgeons.

Results: During 5 years (2012-2017), 152 patients underwent intervention for treatment of acute DVT. Group 1 included 144 patients who had no significant periprocedural renal changes. Group 2 had eight patients with changes in renal function periprocedurally. Mean age, number of procedures, anatomic location of the DVT, and contrast material dose were similar in the two groups. Patients in group 2 did have both a higher baseline creatinine concentration (0.87 vs 1.35 mg/dL; P = .03) and lower GFR (58.6 vs 48.3 mL/min/1.73 m^2; P = .046). Patients with abnormal GFR were more likely to have periprocedural renal impairment (P = .0023). The addition of mechanical thrombectomy to any procedure conferred an increased risk of acute renal impairment (P = .039). No patient required permanent hemodialysis, although two patients with normal initial renal function required temporary hemodialysis after intervention.

Conclusions: This study represents initial evidence that for patients undergoing intervention for acute DVT, there is a small (5.2%) but real risk of temporary periprocedural renal impairment. Predisposing factors in the study are limited to impaired renal function at admission, although normal renal function is not completely protective. Renal tubular necrosis may complicate mechanical thrombectomy and augment the risk of nephropathy posed by the use of iodinated contrast agents. Whereas intervention for acute DVT can be safely undertaken, additional investigation is necessary to clarify what specific elements of mechanical thrombectomy pose the greatest risk to patients and how that risk may best be mitigated in the future.

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A Pathologic Perforator May Predict the Presence of an Ipsilateral Central Venous Stenosis

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Objective: The treatment of a refluxing perforator is indicated in the setting of severe venous insufficiency (ie, pathologic perforator), but there