Table XXVII. RFA variants.
11 articles. 11 RCTs

Operative procedure	Reference	Summary
RFA completed with deleted or synchronized ambulatory incompetent tributary avulsion	Lane TRA, Kelleher D, Sheperd AC, Franklin IJ, Davies AU. Ambulatory varicosity avulsion later or synchronized (AVULS). A randomized clinical trial. *Annals of Surgery* 2015;261:654-61	Single-center study. 111 patients with symptomatic primary GSV or SSV primary VV treated under local anesthesia by RFA+ tributary phlebectomy. No data on deep vein CEAP clinical classification C4 (median). All patients treated by RFA ClosureFAST and stab phlebectomies Group I (n=50): delayed phlebectomy. *versus* Group II (n=51): simultaneous phlebectomy **Results at 6 weeks to 1 year of follow-up:** . *VCSS*: significant improvement at all study points in group II, . *Number of phlebectomies:* no difference between groups . *Further treatment after initial procedure*: 36% in group I *vs* 2% in group II. P<0.0001.

RFA Post-operative compression 4 hours versus 72 hours	Krasznai AG, Sigterman TA, Troquay SAM, Houtermans-Auckel JP, Snoeijs MGJ, Rensma HG, Sikking CJJM. A randomised controlled trial comparing compression therapy after radiofrequency ablation for primary great saphenous vein incompetence Phlebology 2016;31:118-124 DOI 10.1177:0268/35551 4568658	Multi-center study. 101 symptomatic patients presenting incompetent unilateral GSV No SSV incompetence, no data on deep veins. CEAP clinical classification C2-C4 All patients treated by RFA Closure FAST under local tumescent anesthesia. Postoperative compression by superposition of stockings class I and class II Group I (n=50) compression 4 hours *versus* Group II (n=51) compression 72 hours **Results at 3-14 days of follow-up:** *. Complications* Group I 16%. P=0.05 Group II 33% *. Leg volume* Group I reduction 64mL P=0.12 Group II Increase 21mL *. Postoperative pain and time to full recovery* No difference between the 2 groups
RFA with/without compression	Ayo A, Blumberg SN, Rockman CR, Sadek M, Caine N, Ademann M et al. Compression versus No Compression after Endovenous Ablation of the Great Saphenous Vein: A Randomized Controlled Trial. Ann Vasc Surg 2017; 38: 72–77	Monocenter study 70 patients presenting primary GSV varices, no data on SSV, no history of deep vein thrombosis CEAP classification class C2-C6. They were treated by RFA Closure FAST without complementary phlebectomy: Then they were randomized in to 2 groups Group I (n=46): no compression except 24 hr. of post-procedure bandage Group II (n=39): Thigh – high 30-40-mm Hg

		compression 24 hr. after the procedure for 7 days. Baseline characteristics similar for both groups **Results assessed at 1 and 7 day.** There was no significant difference in patient-reported outcomes of postprocedural pain scores estimate by CIVIQ-2 and VCSS.
RFA for varices with and without perioperative administration of MPFF	Stoiko YuM, Mazaishvili KV, Khlevtova TV, Tsyplyashchuk AV, Kharitonova SE, Akimov SS. Effect of pharmacotherapy on course of postoperative period after endovenous Thermal ablation. angiol Sosud khir 2015	Monocenter study 60 patients presenting primary VV of the GSV C2S Ep P r were treated by EVLA or RFA. Group I (n 30) MPFF 7 days after operative treatment *versus* Group II (n 30) No venoactive drugs **Results** By using both CIVIQ and VCSS *Group I* - pain reduction. P<0.05 - faster restoration of motor activity
Endovenous surgery for varices with and without perioperative administration of MPFF	Bogachev V,Yu, Boldin BV, Turkin Pu. Perioperative administration of micronized purified flavonoid in endovascular treatment of varicose disease. Angio Sosud Khir 2019;25: 89-95.	Monocenter study. 1519 patients with primary GSV or SSV were treated by endovascular thermal ablation (EVLA or RFA) Clinical class C2 A or S Group I (n 1039): MPFF 1000mg/daily in the perioperative period Group II (n 400) no venoactive treatment **Results** Less adverse events in Group I: compared to Group II: Ecchymosis 7.1 vs 11%. P=0.01 Hematoma 0.5 vs1.3%. P=0.1

		Paresthesia 0.5 vs 1.7 %. P=0.02 Thrombophlebitis 0.2 vs 0.6 %. P=0.2 Pigmentation 0.6 vs 3.3 %. P=0.001 Heat -induced thrombosis 0.3 vs 1.3%. P=0.02
Three different RFA technologies. A randomised trial	Nyamekye IK, Dattani N, Hayes W, Harding D, Holloway S, Newman J. A Randomised Controlled Trial Comparing Three Different Radiofrequency Technologies: Short-Term Results of the 3-RF Trial. Eur J Vasc Endovasc Surg 2019;58:401-408	Monocentre study 180 patients with primary symptomatic GSV incompetence were treated by 3 RFA types of device. No data on SSV. Exclusion criteria: recurrent GSV, Deep venous anomaly. CEAP clinical classification C2S-C5S. Group I (n= 57): Venefit Group II (n =64): RFITT Group III (n=59): EVFR **Results** . Mean treatment time. RFITT faster than Venefit and EVRF . Euroqol 5D. VAS did not differ at any time point between the groups. . Pain score/discomfort at 2 weeks, fewer for EVFR. . AVVQ at 6 and 12 months. No significant difference between the 3 groups. . At 12 months. Truncal ablation. Venefit > RFITT and EVFR, but clinical outcomes were not different
Two different RFA technologies. A randomised trial	Bitargil M, Kilic HE. Ablation of the great saphenous vein with F-care versus Closurefast endovenous radiofrequency therapy: Double-blinded prospective study .Phlebology 2020;35:561-5 DOI: 10.1177/0268355520913389	Monocenter study 114 patients with symptomatic primary incompetent GSV. No DVT No data on CEAP classification Group I (n=57): Endovenous radiofrequency, F-Care systems, Continuous pull back. *versus* Group II (n=57): closure Fast, Covidien **Results at 12months of follow-up:**

		Complete occlusion rate Group I=71.7% P=0.013 Group II= 90.6% No significant difference between the 2 groups in terms of *adverse events* *VCSS* improved significantly for both treatments with no significant differences between them.
	Hamann SAS,Timmer-de Mik L, Fritschy WM, Kuiters GRR, Nijsten TEC , van den Bos RR · Randomized clinical trial of EVLA versus direct and indirect RFA for the treatment of GSV. B J Surg 2019;106:998-1004	Monocenter study 451 patients with symptomatic primary incompetent GSV. No patient with ipsilateral SSV incompetence or/and deep vein disease. CEAP clinical classification C2-C6/ Group I (n=149): EVLA Diode 980-nm, bare fiber continuous pull back. Procedure failure 2 *versus* Group III (n=152): dRFA continuous pull back. Procedure failure 2 *versus* Group III (n=149): iRFA Possible incompetent tributaries were not treated. Local tumescent anesthesia Results at 12 months of follow-up: *Complete occlusion rate, intention to treat* Group I=75.0. 0.007 versus dRFA Group II=59.9 <0.001 versus iRFA Group III =81.3 0.208 versus EVLA Significantly more adverse events were reported after treatment with EVLA (103) than after dRFA (61) and

		iRFA (65), especially more pain. VCSS improved significantly for all treatments with no significant differences between them. AVVQ scores also improved significantly for all treatments, but iRFA had significantly better scores than dRFA
RFA with/without compression	Onwudike M, Abbas K, Thompson P, McElvenny DM. Role of Compression After Radiofrequency Ablation of Varicose Veins: A Randomised Controlled Trial. EJVES 2020; 60:108-117	Multicenter study 100 patients presenting primary GSV or/and SSV varices, Criteria exclusion: DVT, ABPI<0.9, varices previously treated CEAP classification class C2-C6. They were treated by RFA Closure FAST without complementary phlebectomy. Then they were randomized in to 2 groups Group I (n=51): RFA + compression stockings 2 weeks Group II (n=49: RFA Baseline characteristics similar for both groups **Results assessed at 12 weeks** No difference in terms of vein occlusion, AVQQ, AVSS, VCSS
EVLA or RFA + tributary phlebectomy with buffered local tumescent anesthesia (LTA) vs non-buffered LTA	Nandrah S, Wallace T, El-Sheika J, Leung C, Carradice D, Chetter I. A Randomised clinical trial of buffered tumescent local anesthesia during endothermal ablation for superficial venous incompetence EJVES 2018;56:699-708	Monocenter study 97 patients presenting primary GSV incompetence. No SSV incompetence, no deep vein anomaly They were treated by EVLA with concomitant phlebectomy. CEAP clinical classification C2-C6. All patients treated by EVLA or RFA +tributary phlebectomy Group I (n= 47) buffered tumescent anesthesia

		versus Group II (n= 50) non-buffered tumescent anesthesia **Follow-up assessment at 1, 6 and 12 weeks** *-Peri-procedural pain score measured by VAS.* Best result in Group I. P= 0.001 *-Pain score and analgesic use in the subsequent week same in both groups* Best result in Group I. P=0.008. -No difference in terms of VQQ, SF36, and EQ-5D scores between the 2 groups **Conclusion** Buffered local tumescent anesthesia provides better results
RFA with/without compression	Pihlaja T,Romsi P, Ohtonen P, Jounila J, Pokela M. Post-procedural Compression vs. No Compression After Radiofrequency Ablation and Concomitant Foam Sclerotherapy of Varicose Veins: A Randomised Controlled Non-inferiority Trial. EJVES 2020;59: 73-80	Multicenter study 177 patients presenting primary GSV or/and SSV varices. Criteria exclusion: DVT, ABPI<0.9, varices previously treated. CEAP clinical classification class C2-C4. They were treated by RFA Closure FAST with complementary UGFS of incompetent tributary Group I (n=90: RFA + compression stockings for 2 days and then 5 days during the daytime. Group II (n=87): RFA Baseline characteristics similar for both groups **Results assessed at 2 weeks, 6months** No difference in terms of postoperative pain and full physical activity. AVQQ, at 6 months were comparable.

Abbreviations: ABPI= ankle brachial pressure index; AVVQ=Aberdeen varicose vein questionnaire; AVSS= Aberdeen varicose severity score; dRFA=radiofrequency-induced thermotherapy; DVT=deep vein thrombosis; EVLA=endovenous laser ablation; GSV=great saphenous vein; iRFA= =VNUS ClosureFast; LL=lower limb; RFA=radiofrequency ablation; HRQoL=Health-related quality of Life; SFJ=sapheno-femoral junction; SSV=small saphenous vein; VCSS=venous clinical severity score.