OE-397

The First Experience of Cyanoacrylate-based Embolization for Incompetent Great Saphenous Veins in Japan

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Objective: To evaluate the safety and effectiveness of n-butyl cyanoacrylate (NBCA) endovenous closure of incompetent great saphenous veins (GSVs) in Japan.Method: Incompetent 20 of GSVs were occluded by NBCA bolus injections under ultrasound guidance without the use of perivenous tumescent anesthesia or graduated compression stockings. Maximum GSV diameter was 12.6 ± 4.6cm. 4Fr catheter was introduced near the saphenofemoral junction, and NBCA was injected by 0.03mL/cm with continuous catheter drawback by 2cm/sec. Venous Clinical Severity Score (VCSS), Aberdeen Varicose Vein Questionnaire (AVVQ) and duplex ultrasound evaluations were performed after 1 week and 3 months. Result: NBCA was injected by 1.3 ± 0.3 mL, and overall injection time was almost 20 sec. There was no major complication except phlebitis in 1 (5%) and skin pigmentation in 1 (5%). Complete occlusion of the treated GSVs was confirmed up to 3 months by duplex ultrasound in all patients with sufficient NBCA polymerization. VCSS improved in all patients from 4.9 ± 1.7 to 1.0 ± 1.5 (p<.001), and AVVQ also improved from 8.2 ± 3.8 to 2.2 ± 2.3 (p<.001) at three months. Conclusion: The first clinical use of NBCA in Japan for endovenous closure of incompetent GSVs proved to be feasible, safe and effective. Further study is necessary to elucidate the long-term results.

[Keywords] veins / occlusion

OE-398

Impact of Peak Systolic Velocity in the Common Femoral Artery on the Restenosis Following Stenting in the Femoropopliteal Artery

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Background: This study sought to investigate the impact of post procedural peak systolic velocity (PSV) in the common femoral artery (CFA) on restenosis occurrence following femoropopliteal (FP) stenting. Method: We retrospectively analyzed a single-center database including 291 consecutive FP lesions from 246 patients who underwent FP stenting and post procedural duplex ultrasound between January 2011 and December 2013. Multivariate analysis was performed to determine whether PSV was independently associated with the restenosis occurrence. Results: Primary patency was 70% at 1year and 59% at 2 years. Median PSV in the CFA was 114.7 cm/s. In multivariate analysis, PSV<115cm/s was an independent predictor for restenosis occurrence (Table). Conclusion: PSV in the CFA following stenting in the FP was independently associated with restenosis occurrence.

[Keywords] peripheral vascular disease / ultrasound

Table Univariate and multivariate analysis for restenosis after revascularization

Factors	Univariate model		Multivariate model	
	Hazard ratio [95% CI]	P value	Hazard ratio [95% CI]	P value
Female	1.48 [0.98-2.22]	0.06	1.41 [0.92-2.18]	0.11
Hemodialysis	1.33 [0.90-1.97]	0.16	1.19 [0.78-1.80]	0.42
Diabetes mellitus	**1.67 [1.09-2.53]**	**0.01**	**2.08 [1.34-3.23]**	**< 0.01**
Critical limb ischemia	1.42 [0.96-2.10]	0.08	1.25 [0.80-1.93]	0.33
Poor run-off	1.07 [0.72-1.58]	0.73	0.80 [0.52-1.24]	0.33
Lesion length (≧ 15cm)	**1.88 [1.27-2.77]**	**< 0.01**	**2.42 [1.60-3.65]**	**< 0.01**
PSV at CFA (<115cm/s)	**1.75 [1.18-2.61]**	**< 0.01**	**1.78 [1.19-2.68]**	**< 0.01**

▲ TOP