Endovenous Glue-Induced Thrombosis

Dr. Jin Hyun JOH
Kyung Hee University Hospital at Gangdong, South Korea

Background: Cyanoacrylate closure (CAC) procedure is a safe and effective modality for the treatment of incompetent saphenous vein. The glue extension into the deep vein, so called endovenous glue-induced thrombosis (EGIT) may be a worrisome complication. However, the incidence, classification, and risk factors of EGIT have not been elucidated. We report herein it after CAC procedure for the incompetent saphenous vein.

Methods and materials: A retrospective review was performed from prospectively collected data of CAC patients. Preoperatively, the diameter, reflux time (RT), and peak reflux velocity (PRV) of saphenous vein were measured. The CAC procedure was performed with the instruction for use. Postoperative follow-up was done at 1 week, 3 months, 6 months, and one year after procedure. The postoperative duplex scanning was performed to evaluate the presence of glue extension into the deep vein. We classified it as four grades. The risk factor for the development of EGIT was analyzed. The paired t-test, independent t-test, Fisher’s exact test and one way ANOVA were used for statistical analysis. P-value <0.05 was considered statistically significant.

Results: During the study period, CAC procedure was performed in 191 patients. The mean age was 56.1±11.7 years with a range of 19 to 84 years. The 126 patients were female. EGIT developed in 11 patients (5.8%). EGIT grade I and II developed in 7 (63.6%) and 4 (36.4%) patients, respectively. All patients with EGIT did not use the anticoagulant. After procedure, pain, venous clinical severity score, and quality of lift score were improved with statistical significance (P<.001). On the analysis of risk factor for the development of EGIT, preoperative saphenous vein diameter less than 5mm was the only risk factor (P<.001).

Conclusion: EGIT is not uncommon complication. The small diameter of saphenous vein less than 5mm is a risk factor for the development of EGIT. The clinical course of EGIT was benign.