Frequency of endovenous glue-induced thrombosis

We read with interest the article by Cho et al,[1] entitled "Incidence, classification, and risk factors of endovenous glue-induced thrombosis after cyanoacrylate closure of the incompetent saphenous vein."

We wish to contribute one issue to their study. In their report, the authors stated that endovenous glue-induced thrombosis is not an uncommon complication of cyanoacrylate closure. However, this complication is closely related to the polymerization time of the cyanoacrylate molecule. In Turkey, we use a different form of the cyanoacrylate molecule. It is called the VariClose Vein Sealing System (Biolas, Ankara, Turkey). The cyanoacrylate molecule used by the Variclose system has a lower viscosity and faster polymerization time compared with the VenaSeal System (Medtronic Inc, Minneapolis, Minn).[2] Thus, endovenous glue-induced thrombosis complications can be avoided.[2,3]

We congratulate Cho et al[1] for their important study about the treatment of great saphenous vein insufficiency with glue ablation. We would like to hear the authors' opinion on this matter.

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Reply

We appreciate Bademci et al[1] for their valuable question about the frequency of endovenous glue-induced thrombosis (EGIT) after cyanoacrylate closure of an incompetent saphenous vein in our recently reported study.[2]

Bademci et al[1] stated that the development of EGIT could be avoid after using the VariClose System (Biolas, Ankara, Turkey), which has been used in Turkey owing to the lower viscosity and faster polymerization time compared with the VenaSeal System (Medtronic Inc, Dublin, Ireland). However, we disagree. Theoretically, the lower viscosity material can be more easily mobilized than a higher viscosity material. Therefore, the use of lower viscosity cyanoacrylate could result in a greater risk of deep vein thrombosis or pulmonary embolism. Second, it is rather difficult to understand a correlation between the polymerization time and the development of EGIT. The spread or propagation of cyanoacrylate glue occurs during compression after its injection. The cyanoacrylate glue of the VenaSeal System has a sufficiently rapid polymerization time to prevent the extension of the glue into the deep vein.[3] On multivariable analysis in our study, the only risk factor for the development of EGIT was a small diameter of the saphenous vein of <5 mm.[2] However, the inclusion criterion for the vein diameter in all studies using the VariClose System was >5.5 mm.[4-6] Thus, the absence of EGIT after the use of the VariClose System could have been because none of the patients had had a small diameter saphenous vein <5 mm. In addition, the degree of glue propagation correlated clearly with the venous diameter, with statistical significance.[7]

However, no solid evidence was found to reveal a correlation between the polymerization time and the occurrence of EGIT. Further studies with a prospective, controlled, cohort design are needed to clarify this issue. We wish to thank Bademci et al[1] for their detailed question about EGIT.

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