

Comment on: "Does perivascular fibrin glue application have a preventive effect for the endothelial damage on saphenous vein graft? An experimental model"

Comentario a: "¿La aplicación de pegamento de fibrina perivascular tiene efecto preventivo del daño endotelial en el injerto de vena safena? Un modelo experimental"

Ahmet K. As*¹, Mesut Engin, and Senol Yavuz

Department of Cardiovascular Surgery, University of Health Sciences, Bursa Yuksek Ihtisas Training and Research Hospital, Bursa, Turkey

Dear Editor,

We read with interest the paper by Badem et al.¹ entitled "Does perivascular fibrin glue application have a preventive effect for the endothelial damage on saphenous vein graft? An experimental model." We congratulate the authors. We would like to make some comments.

In this *ex vivo* experimental study, 40 pieces of saphenous vein graft (SVG) were obtained as "excess" from a total of 20 patients. In coronary bypass surgery, sometimes the prepared grafts cannot be used due to some unexpected reasons, such as the target vessel diameter not being bypassable. However, this does not happen very often. How many total cases were performed during the time examined to reach the number of 20 patients, with excess SVG, included in this study? In a study designed in this way, were the saphenous parts included in the study of standard length? Or was the standard length of the saphenous vein obtained in all patients? Was it possible to obtain the excess saphenous vein in every case?

Another issue that interests us is how the saphenous vein harvesting technique is performed. We think that "no-touch harvesting" should be preferred in such a study rather than methods that may cause trauma to the saphenous vein. It is known that excessive vascular distension with classical vascular cannulation will both damage the intima and affect graft patency². Which of the endoscopic/no-touch/conventional techniques

were used for SVG harvesting in these patients? In the arterial system model designed for the study, and working successfully, SVGs were exposed to blood flow under 120 mmHg pressure for 60 min. In the experimental model created under the same conditions by Stooker et al.,³ which is cited as a reference in your study, the pressure was designed as 60 mmHg, and the blood flow was 100 mL/min. In your study design, how many mL/min was the "intrasaphenous blood flow" set under 120 mmHg pressure? Were coronary blood flow rate and coronary perfusion pressure taken into consideration when making these calculations?

Finally, SVG remains the most preferred graft in multi-vessel coronary surgery in the world⁴. In your study, it was observed that significant intimal damage occurred in the grafts that were presented as the control group and in which fibrin glue was not applied. How do you interpret the fact that such significant intimal damage occurs in SVGs exposed to blood flow under 120 mmHg pressure for 60 min? If the experimental environment created meets physiological conditions, we think that the obtained data should be interpreted carefully.

Funding

The authors declare that they have not received funding.

*Correspondence:

Ahmet K. As

E-mail: ahmetkagan_as@hotmail.com

0009-7411/© 2024 Academia Mexicana de Cirugía. Published by Permanyer. This is an open access article under the terms of the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Date of reception: 22-03-2024

Date of acceptance: 19-06-2024

DOI: 10.24875/CIRU.24000168

Cir Cir. 2025;93(4):462-463

Contents available at PubMed

www.cirugiaycirujanos.com

Conflicts of interest

The authors declare that they have no conflicts of interest.

Ethical considerations

Protection of humans and animals. The authors declare that the procedures followed complied with the ethical standards of the responsible human experimentation committee and adhered to the World Medical Association and the Declaration of Helsinki. The procedures were approved by the Institutional Ethics Committee.

Confidentiality, informed consent, and ethical approval. The authors have obtained approval from the Ethics Committee for the analysis of routinely

obtained and anonymized clinical data, so informed consent was not necessary. Relevant guidelines were followed.

Declaration on the use of artificial intelligence. The authors declare that no generative artificial intelligence was used in the writing of this manuscript.

References

1. Badem S, Kahraman N, Isil-Turhan E, Taner T, Demir D, Melis-Oztas D, et al. Does perivascular fibrin glue application have a preventive effect for the endothelial damage on saphenous vein graft? An experimental model. *Cir Cir.* 2023;91:212-7.
2. Ward AO, Caputo M, Angelini GD, George SJ, Zakkar M. Activation and inflammation of the venous endothelium in vein graft disease. *Atherosclerosis.* 2017;265:266-74.
3. Stooker W, Niessen HW, Wildevuur WR, Van Hinsbergh VW, Fritz J, Jansen EK et al. Perivenous application of fibrin glue reduces early injury to the human saphenous vein graft wall in an *ex vivo* model. *Eur J Cardiothorac Surg.* 2002;21:212-7.
4. Altshuler P, Nahiriak P, Welle NJ. Saphenous vein grafts. In: StatPearls. Treasure Island, FL: StatPearls Publishing; 2024.