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A COMPARATIVE ANALYSIS OF THE DURABILITY OF GRAFTS USED AS A SECOND CONDUCTOR IN MYOCARDIAL REVASCULARIZATION

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Keywords: Radial Artery; Vascular Graft; Coronary Artery Bypass; Myocardial Revascularization; Saphenous vein.

INTRODUCTION

In mid-1967, René Favaloro began a new era in the treatment of acute coronary syndrome, with the creation of myocardial revascularization. Primarily, he used the saphenous graft to perform the bypass, however, over the years, new studies were carried out evaluating the permeability and duration of new grafts, analyzing the best for the patient's longevity.

GOALS

To compare, at an interval of 10 years after the procedure, the durability of arterial grafts (radial and right internal thoracic) and saphenous vein graft used as a second conductor in myocardial revascularization surgery.

METHODOLOGY

This is a literature review carried out based on data obtained in Guidelines and articles, from 2018 to 2021, from the following media: Journal of the American College of Cardiology, European Heart Journal, The New England Journal of Medicine and American Heart Association. The following descriptors were used: Radial Artery; Vascular Graft; Coronary Artery Bypass; Myocardial Revascularization; Saphenous vein.

RESULTS AND DISCUSSION

In the studies analyzed, the patency of the radial artery graft remained above 85% after a period of 10 years. In the same time period, the right internal thoracic artery graft performed similarly to the radial artery, with a small decrease in percentage, recording a patency of 80% after the first decade. On the other hand, the saphenous vein graft had its permeability reduced to 70% in the first 10 years after the revascularization surgery. Furthermore, the shorter durability of the venous graft is closely related to the greater occurrence of complications, considering that stenosis is the main reason for saphenous vein bypass failure in the long term. This difference in the rate of occlusion of the graft lumen during the years following surgery is justified in the literature as a consequence of anatomical and physiological inequalities between an artery and a vein, which involve a sequence of factors, such as elasticity, presence of endothelial fenestrations, presence of valves and response to mediators.

CONCLUSION

Therefore, through comparative analysis between the selected studies, it becomes possible to infer that the use of arterial conductors has greater durability when compared to the saphenous vein. Current guidelines corroborate this assertion by indicating the use of the right thoracic artery or the radial artery in front of the saphenous vein as a graft.

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