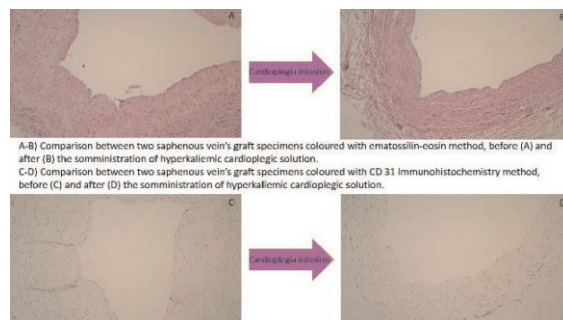


endothelium, although present, is more difficult to visualize and is discontinuous to a variable extent from 20 to 60%. This reduction in the percentage of visible continuous endothelium was confirmed by analysis with CD31 and CD34 immunohistochemical stains. Previous studies already confirm that the venous endothelium is affected by a high concentration of potassium, producing acute and chronic lesions. This result would seem to demonstrate how the endothelial tissue is also susceptible to hyperacute damage following short-term exposure to potassium.

Conclusions: The short-term results of this study would seem to confirm the initial hypothesis of a relationship between the use of hyperkalemic cardioplegia and the formation of acute or hyperacute lesions in the saphenous vein graft at the endothelial level. This conclusion could be one of the explanations of the high failure rate of the venous bypass, which in fact has a 10-year occlusion rate of 60/65%.



A-B) Comparison between two saphenous vein's graft specimens coloured with ematossilin-eosin method, before (A) and after (B) the somministrazione of hyperkalemic cardioplegic solution.

C-D) Comparison between two saphenous vein's graft specimens coloured with CD 31 Immunohistochemistry method, before (C) and after (D) the somministrazione of hyperkalemic cardioplegic solution.

CARDIAC SURGERY

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P341 ST. THOMAS NO. 2 BLOOD HYPERKALEMIC CARDIOPLEGIA AS A POSSIBLE CAUSE OF ACUTE ENDOTHELIAL INJURY IN SAPHENOUS VEIN GRAFT IN PATIENTS UNDERGOING ON-PUMP CORONARY ARTERY BYPASS GRAFT: SHORT-TERM RESULTS

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Introduction: Coronary artery bypass graft is considered the most frequently performed cardiac surgery and involves the use of different types of grafts: internal mammary artery, saphenous vein, radial artery. The venous graft is often subject to early failure due to various factors such as thrombus formation, intimal hyperplasia or formation of atherosclerotic plaques. Several studies have highlighted various mechanisms that may be responsible for these processes. This study aims to find a statistically significant correlation between the use of hyperkalaemic cardioplegic solutions and endothelial damage. Materials and methods For sample collection, saphenous vein segments were taken from each patient: one was taken when it was isolated to take the graft, and a second sample was taken after administration of St. Thomas no. 2 cardioplegic solution. Both collected specimens were stored in formalin and analyzed by light microscopy following hematoxylin-eosin staining and staining with monoclonal antibodies targeting CD31 and CD34.

Discussion: From the study with hematoxylin and eosin staining, it was observed that in the vein taken before the infusion of cardioplegia, the endothelium was present, continuous, clearly visible and without lesions. In the specimens taken after the infusion of hyperkalaemic cardioplegic solution, it is noted that the