Doppler Echocardiographic Flow Pattern of the Left Internal Thoracic Artery Following Myocardial Revascularization Using a Composite Graft

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Introduction

Doppler echocardiographic studies of left internal thoracic artery (LITA) grafts, pedicled to the anterior interventricular artery (AIA) became a significant non-invasive method to evaluate graft blood flow and patency at the end of the 90's. A detailed comparison of blood flow from an in situ LITA and an implanted LITA graft reveals that the in situ LITA has a predominantly systolic flow pattern, whereas the LITA pedicled to the AIA shows a considerable increase of diastolic flow, compatible to the flow pattern in the coronary arteries. Another important observation is that the LITA adapts well to flow demand, and therefore can be used in composite grafts for revascularization of more than one coronary artery[1].

Potential Conflict of Interest

No potential conflict of interest relevant to this article was reported.

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Study Association

This study is not associated with any graduation program.

Key words

Echocardiography, Doppler; mammary arteries; graft.

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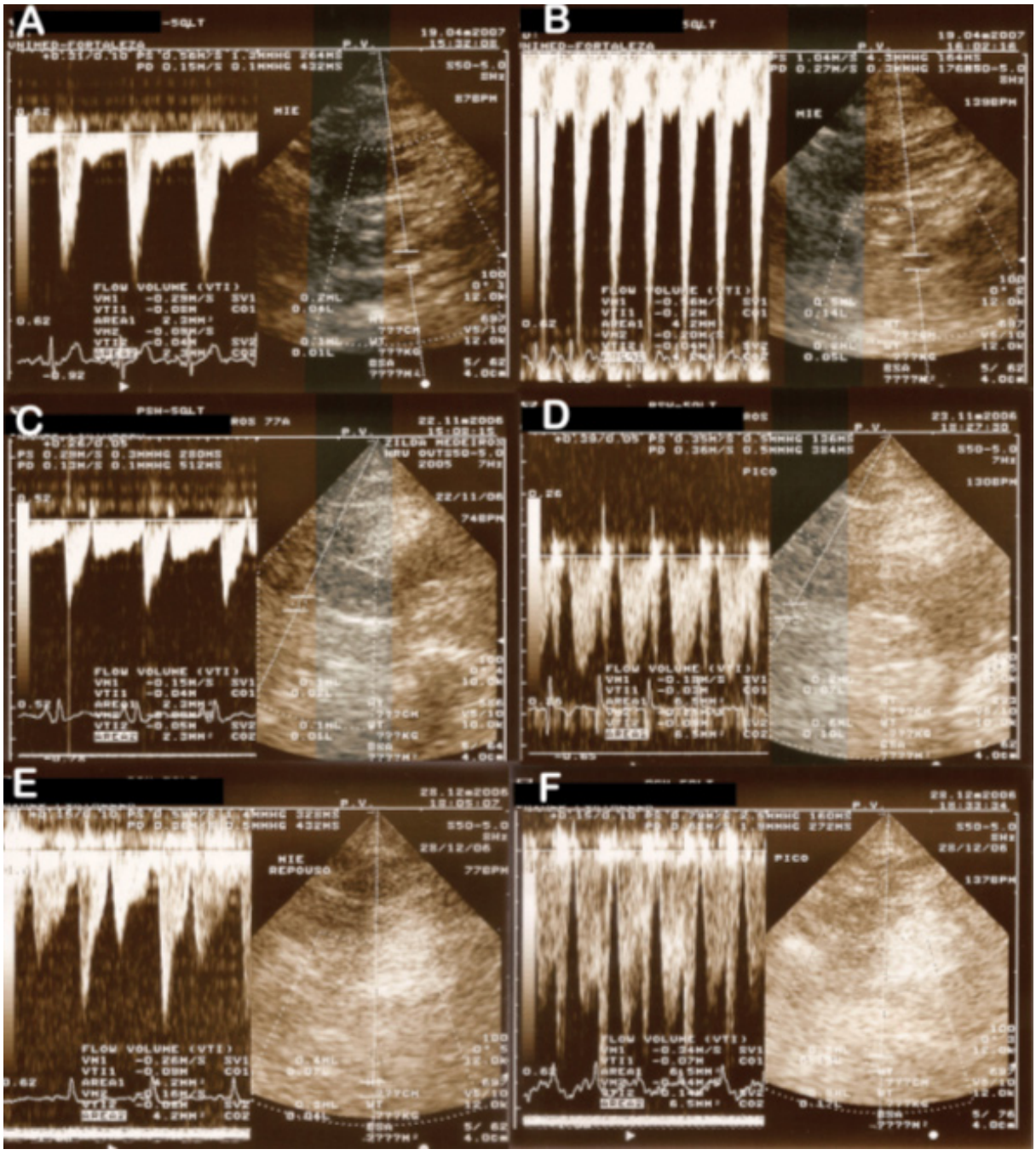

Figure 1 - *Doppler Echocardiography of LITA showing the flow pattern during different situations: A – In situ LITA at rest., B – In situ LITA under dobutamine stress., C – LITA in a simple graft at rest., D – LITA in a simple graft under dobutamine stress., E – LITA in a composite graft at rest., F – LITA in a composite graft under dobutamine stress.*

References

1. Lobo Filho JG, Leitão MCA, Forte AJV, Lobo Filho HG, Silva AA, Bastos ES, et al. Flow analysis of left internal thoracic artery in myocardial revascularization surgery using Y graft. Tex Heart Inst J. 2006;33(4):430-6.