

UCLA

UCLA Previously Published Works

Title

Intravascular ultrasound facilitates thrombectomy with the X-SIZER.

Permalink

<https://escholarship.org/uc/item/16b0t1w1>

Journal

AMERICAN JOURNAL OF CARDIOLOGY, 88(5A)

ISSN

0002-9149

Authors

Takano, Y

Currier, JW

Yeatman, LA

et al.

Publication Date

2001

Copyright Information

This work is made available under the terms of a Creative Commons Attribution License, available at <https://creativecommons.org/licenses/by/4.0/>

Peer reviewed

Abstract

2001 transcatheter cardiovascular therapeutics

Oral Abstract Presentations 12:30–2:45 PM

Thrombectomy and Atherectomy: New Techniques and Applications

Friday, September 14, 2001 12:30–2:30 PM Room 8

(Abstract nos. 1–8)

[https://doi.org/10.1016/S0002-9149\(01\)01933-6](https://doi.org/10.1016/S0002-9149(01)01933-6)

TCT-6

Intravascular Ultrasound Facilitates Thrombectomy with the X-SIZER. *Y. Takano, J.W. Currier, L.A. Yeatman, L. Krueger, M. Jose, K.E. Burt, J.M. Tobis. University of California at Los Angeles Center for Health Science, Los Angeles, California, USA.*

Background: Catheter-based treatment of intracoronary thrombus is difficult during percutaneous coronary interventions (PCI). The X-SIZER (EndiCor Medical, Inc., San Clemente, CA) is a new thrombectomy device that uses an Archimedes screw technology to remove soft tissue from coronary arteries and saphenous vein grafts. Intravascular ultrasound (IVUS) may be beneficial in PCI to guide therapy, but its utility in X-SIZER PCI is unknown.

Methods: X-SIZER thrombectomy was performed in 14 consecutive patients (mean age, 69 ± 13 years; 12 men, 2 women) for treatment of acute myocardial infarction ($n = 10$) or degenerated venous graft ($n = 4$). Quantitative coronary angiography measurements and thrombolysis in myocardial infarction (TIMI) grade evaluation were performed before and after X-SIZER thrombectomy and after final balloon or stent dilatation. IVUS was used in 12 patients to measure the vessel size (media to media) and to assess the presence of thrombus, calcification, or fibrosis.

Results: IVUS revealed soft tissue echoes consistent with thrombus in 10 of 12 lesions. In 8 of these 10 lesions, the X-SIZER was effective in removing intraluminal tissue. In 4 lesions, fibrosis or calcification in the vessel inhibited successful passage of the X-SIZER catheter. In 2 of the fibrotic lesions, IVUS did not demonstrate thrombus despite the angiographic appearance. The mean lesion vessel diameter by IVUS (4.0 ± 0.8 mm) was larger than the mean reference diameter by angiography (3.1 ± 0.6 mm, $p < 0.01$). Using the vessel dimensions by IVUS allowed upsizing of the X-SIZER device and removal of more thrombus.

legend.

legend	Baseline	Post X-SIZER	Final
%DS	97.4 ± 5.7	58.1 ± 27.2	15.0 ± 28.3
MLD (mm)	0.1 ± 0.2	1.4 ± 1.0	2.9 ± 1.1
TIMI	0.7 ± 1.1	2.6 ± 0.9	2.6 ± 0.8

legend

DS = diameter stenosis; MLD = minimum lumen diameter.

Conclusion: The X-SIZER is effective for removing thrombus when soft echoes are observed by IVUS. However, extensive calcium or fibrosis may inhibit the X-SIZER from passing through a lesion. IVUS imaging before thrombectomy may predict the effectiveness of the X-SIZER device and helps guide the choice of the device size.