

UCLA

UCLA Previously Published Works

Title

A RANDOMIZED TRIAL OF TRANSCUTANEOUS EXTRACTION CATHETER (TEC) ATHERECTOMY VERSUS BALLOON DILATATION IN SUPERFICIAL FEMORAL-ARTERY OCCLUSIONS

Permalink

<https://escholarship.org/uc/item/1ks2p9cz>

Journal

CIRCULATION, 88(4)

ISSN

0009-7322

Authors

NAKAMURA, S
HONYE, J
CONROY, R
[et al.](#)

Publication Date

1993-10-01

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

A Randomized Trial of Transcatheter Extraction Catheter (TEC) Atherectomy versus Balloon Dilatation in Superficial Femoral Artery Occlusions

Shigeru Nakamura, Junko Honye, Robert Conroy, Ian Gordon, Curtis Antone, Jonathan M. Tobis, Long Beach Veterans Affairs Medical Center, Long Beach, California and University of California, Irvine

To determine if removing more plaque decreases the restenosis rate, the effect of TEC atherectomy on superficial femoral artery occlusions was assessed by intravascular ultrasound (IVUS) imaging. Patients were randomized to 3 groups: balloon dilatation alone (9 patients); a 2.7 mm TEC+balloon (13 patients); or a 4.0 mm TEC+balloon (6 patients). Pre intervention and post intervention lumen cross sectional area (CSA), vessel CSA, and atheroma CSA were measured by IVUS.

	Balloon only	2.7mmTEC +balloon	4.0mmTEC +balloon	ANOVA
Pre intervention				
lumen CSA (mm ²)	4.5±2.2	5.1±2.7	4.4±1.4	0.62
vessel CSA (mm ²)	24.0±5.9	23.2±8.2	22.7±3.3	0.84
atheroma CSA (mm ²)	19.5±5.7	18.1±8.6	18.3±3.6	0.77
Post intervention				
lumen CSA (mm ²)	13.8±3.8*	18.1±4.9*	13.3±1.8*	0.002
vessel CSA (mm ²)	32.0±5.0*	34.8±6.0*	29.6±4.5*	0.04
atheroma CSA (mm ²)	18.1±5.5	16.8±6.8	16.3±3.6†	0.6

(pre vs. post; *p<0.01, †p<0.05)

There was no significant difference in these measurements (or clinical data) pre treatment. Cross sectional imaging with IVUS reveals that TEC removes a small amount of plaque (11%), but there was no significant difference in plaque CSA among the 3 groups. The major improvement in lumen CSA was due to balloon dilatation.