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Authors

Takano, Y

Higgins, JR

Tobis, JM

et al.

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POSTER SESSION

1294 Intravascular Ultrasound Guided Percutaneous Coronary Intervention II

Wednesday, March 21, 2001, 9:00 a.m.-11:00 a.m.
 Orange County Convention Center, Hall A4
 Presentation Hour: 9:00 a.m.-10:00 a.m.

1294-14 New Stent Delivery Systems Do Not Provide Optimal Stent Expansion

Yuzuru Takano, James R. Higgins, Jonathan M. Tobis, Erick Ascencio, Larry Yeatman, Kristin Kopelson, Jesse Currier. *University of California, Los Angeles, Los Angeles, CA*

Background: Initial observations with intravascular ultrasound (IVUS) showed that first generation stents were not adequately expanded even with their post delivery balloon. It has been assumed that the newest generation of stent delivery systems have incorporated this information and will provide a stented lumen cross sectional area (CSA) equal to the manufacture's stated size. **Methods:** To test this assumption, 41 Guidant Tristar or AVE/Medtronic S670 stents were deployed at 14 to 16 atm with their delivery balloon system. The minimum lumen CSA and diameter were measured by IVUS imaging (0.5 mm/sec mechanical pullback), and were compared to the manufacture's stated expected stent area and diameter at the maximum pressure used. **Results:**

Stent No.	4	1
Average Stent Size	3.1±0.4	
Average Expected SD(mm)	3.5±0.4	
IVUS MLD(mm)	2.4±0.5	
% of Expected SD Achieved	70±8%	
Average Expected SA(mm sq)	9.5±2.4	
IVUS MLA(mm sq)	5.9±2.0	
% of Expected SA Achieved	61±9%	

(mean ± SD) SD=Stent Diameter, MLD=Minimum Lumen Diameter, SA=Stent Area, MLA=Minimum Lumen Area **Conclusion:** For both types of stent, despite moderately high pressure inflation (average 15.6±0.8 atm), the mean minimum stent lumen CSA was only 61% of expected stent area. To optimize stent deployment, these IVUS observations should be considered during coronary artery stenting, especially if using lower pressures during deployment.