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Title:	**Impact of Adequate Stent Expansion on Angiographic Restenosis with Polymer-Based Paclitaxel-Eluting TAXUS Stents: Post Hoc Analysis from the TAXUS II Study**
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Author Block:	Francois Schiele, Univ Jean Minjoz Pole Coeur Poumon, Besancon Cedex, France; Sigmund Silber, Herzkatheterlabor Internistische Klinik Dr. Muller, Munchen, Germany; Adrian Banning, John Radcliffe Hosp, Oxford, United Kingdom; Karl E. Hauptmann, Krankenhaus der Barmherzigen, Trier, Germany; Janusz Drzewiecki, Samodzielny Publiczny Szpital Kliniczny Nr 7, Katowice, Poland; Eberhard Grube, Krankenhaus Siegburg GmbH, Siegburg, Germany; Joerg Koglin, Boston Scientific Corp, Natick, MA
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Rationale and Aim: The impact of intravascular ultrasound (IVUS) guidance on optimized stent placement is controversial. With bare metal stents, optimal stent placement and expansion has been shown to reduce restenosis and improve clinical outcomes but the value for drug eluting stents has not been explored. The purpose of this study was to perform a post hoc analysis of the TAXUS II data, comparing the impact of optimal stent expansion in bare metal stent Controls and TAXUS on IVUS parameters of restenosis.
Methods: In the TAXUS II study, 536 patients were randomized to Control or TAXUS; IVUS was performed post-procedure at 6 months. In a blinded post hoc analysis of all post-procedure IVUS films, stent expansion was categorized as "optimal" or "suboptimal." Optimal stent expansion was defined as the absence of incomplete stent apposition, in-stent lumen area >90% of the mean reference lumen area and >100% of the distal reference area. Percent net volume obstruction at 6 months as the primary study endpoint, as well as clinical outcomes were compared between groups.
Results: Optimal stent expansion was observed in 49% of all Control and 49% of all TAXUS patients. In both groups, patients with suboptimal stent expansion had a statistically smaller RVD ($p<0.05$). In the TAXUS group, optimal stent expansion was statistically more often achieved in younger patients ($p=0.02$) of male gender ($p=0.01$). Suboptimal stent expansion was more prominent in diabetics ($p=0.02$). As expected, in Control patients suboptimal stent expansion was associated with significantly higher 6-month percent net volume obstruction (25.0±18.0% versus 18.3±16.3%, $p=0.0058$). In contrast, in TAXUS patients suboptimal stent expansion was not associated with any increase in percent net volume obstruction (7.9±10.0% versus 7.2±9.7%, $p=0.58$).
Conclusion: This study confirms the association of suboptimal stent expansion and more luminal obstruction in lesions treated with bare metal stents, but this relationship could not be demonstrated with TAXUS, indicating that the paclitaxel-eluting stent is more "forgiving." To further validate this concept, a prospective assessment in more complex lesions will be needed.

American Heart Association
7272 Greenville Avenue
Dallas, Texas 75231