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A Multicenter, Prospective, Randomized Trial Comparing Intravascular Ultrasound-guided versus Angiography-guided Implantation of Drug-Eluting Stent in All-comers

Jun-Jie Zhang, MD, PhD

Xiaofei Gao, Jing Kan, Zhen Ge, Leng Han, Shu Lu, Nailiang Tian, Song Lin, Qinghua Lu Xueming Wu, Qihua Li, Zhizhong Liu, Yan Chen, Xuesong Qian, Juan Wang, Dayang Chai, Chonghao Chen, Xiaolong Li, Bill D. Gogas, Tao Pan, Shoujie Shan, Fei Ye, Shao-Liang Chen

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Background

- Both randomized and observational studies have reported the clinical advantages of IVUS guidance for patients who have complex lesions.
- The benefits of IVUS guidance over angiography guidance in all-comers who receive 2nd generation DES implantation still remain understudied.

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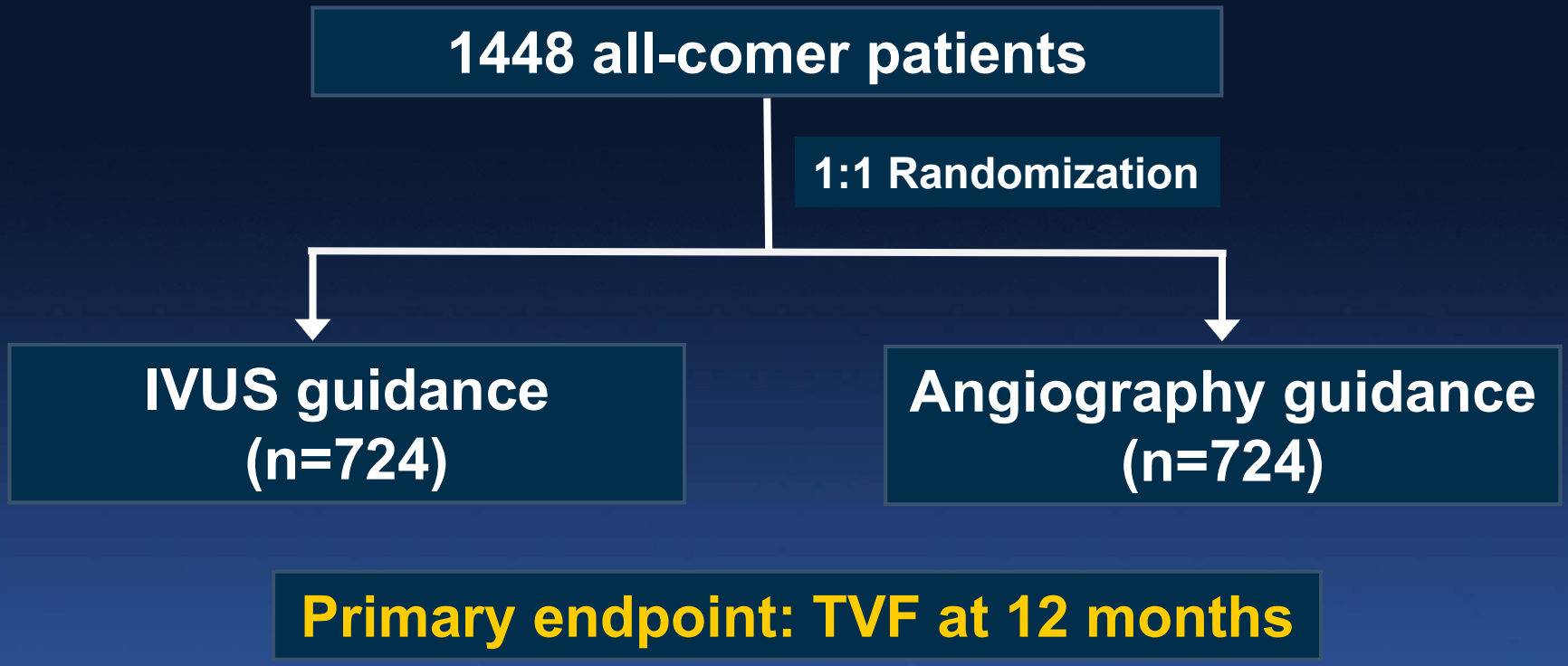
Study Design



Primary endpoint: TVF at 12 months

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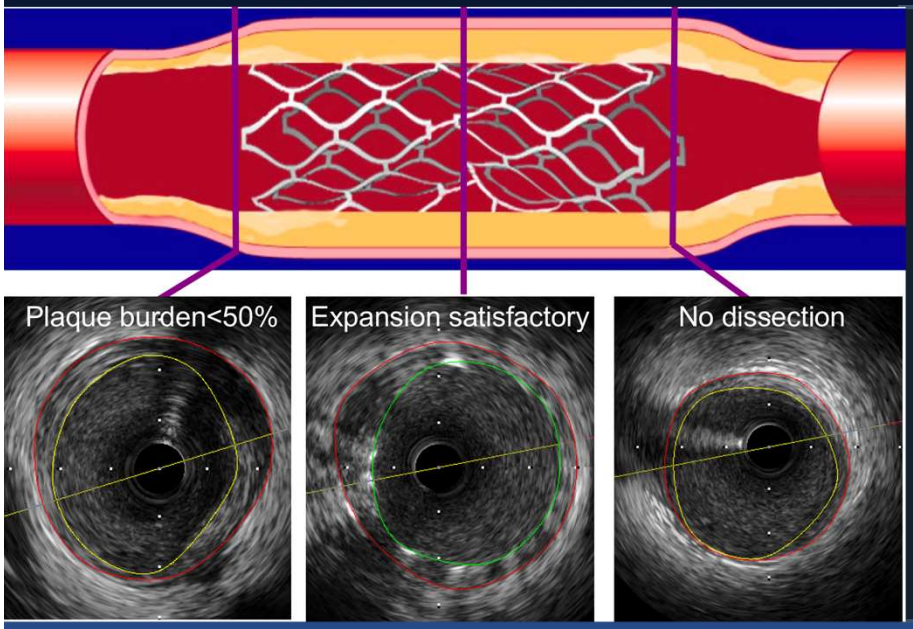
IVUS-defined Criteria for The Optimal Stent Deployment



1. Minimal lumen CSA in stented segment >5.0 mm^2, or 90% of distal reference lumen CSA;
2. Plaque burden at the 5-mm proximal or distal to the stent edge <50%;
3. no edge dissection involving media with length >3mm.

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Clinical Outcomes

	IVUS guidance (n = 724)	Angiography guidance (n = 724)	*P*
Primary endpoint at 30-day			
TVF	0.8%	1.9%	0.08
Primary endpoint at 12-month			
TVF	**2.9%**	**5.4%**	**0.019**
Cardiac death	0.7%	1.4%	0.19
TVMI	1.0%	1.5%	0.34
Clinically-driven TVR	1.5%	2.9%	0.07
Safety endpoint at 12-month			
Definite/probable ST	0.1%	0.7%	0.10

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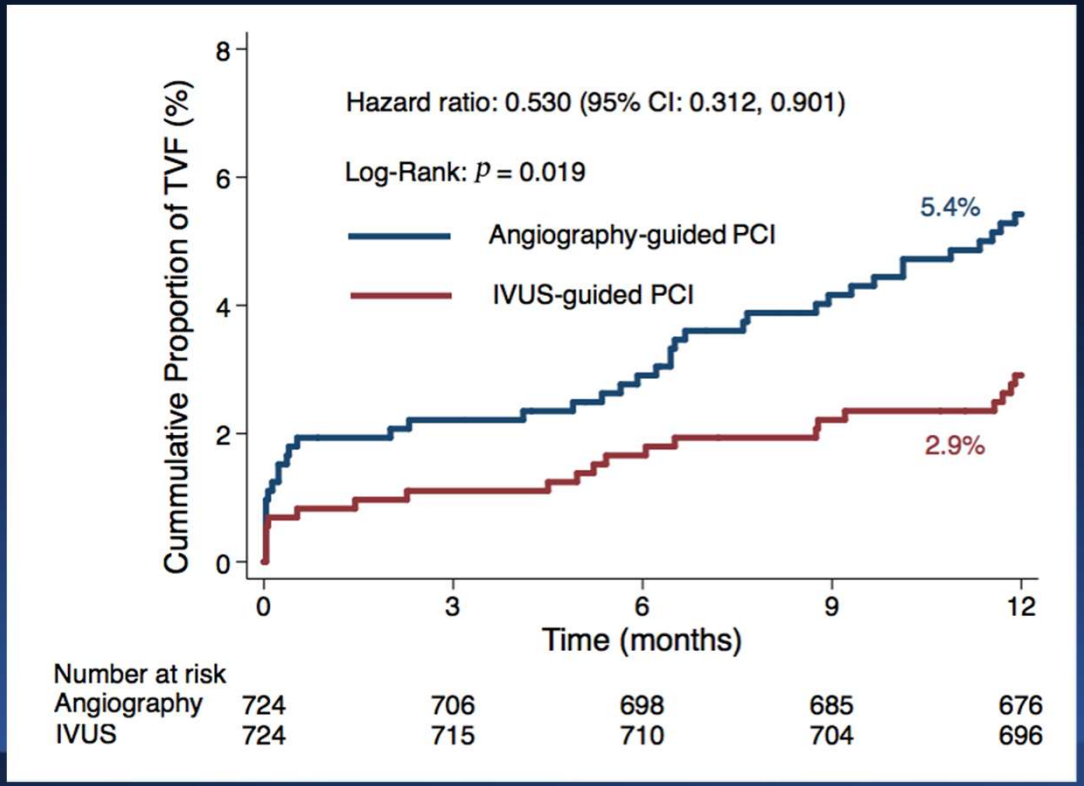
Primary Endpoint

TVF at 12 months



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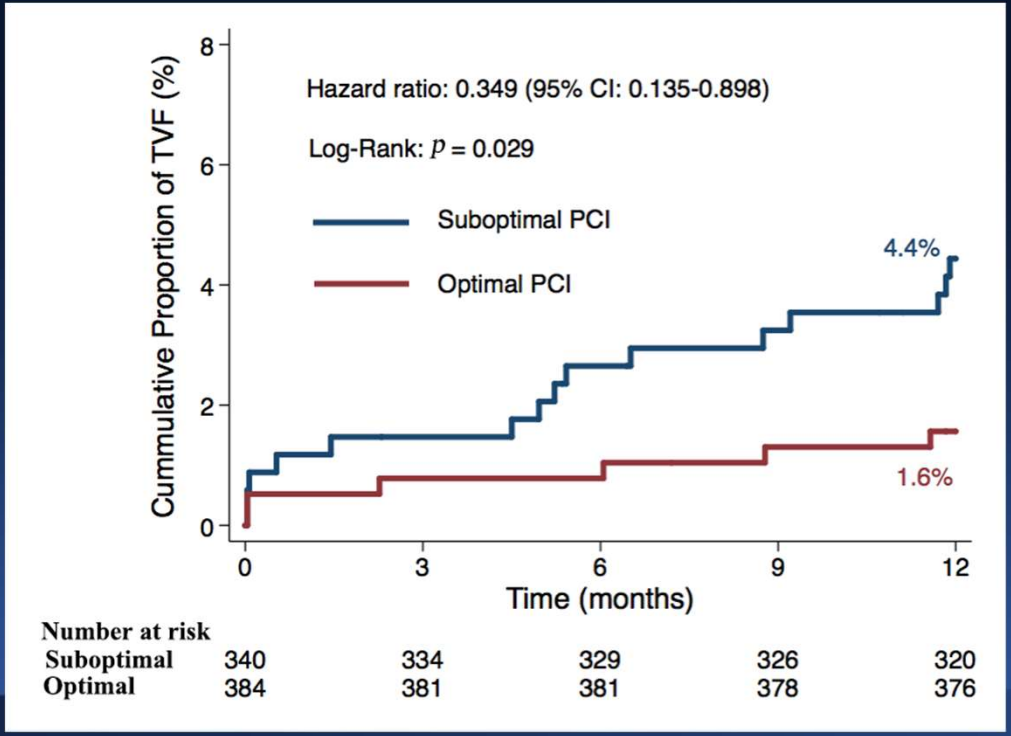
Optimal vs. Suboptimal IVUS-guided PCI

TVF at 12 months



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Conclusion

In the present multicenter randomized trial, IVUS-guided DES implantation in all-comers resulted in lower incidence of TVF at 12 months, compared with angiography guidance, particularly for patients who had an IVUS-defined optimal procedure.

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Thanks for Your Attention

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