cells. Therefore, functional studies are necessary to address the absolute indicator of the endothelialization process. Many al. (1) study along with others demonstrates complete endothelialization of the coated stents at follow-up, histology is not always al. (1) study along with others demonstrates complete endothelialization of the coated stents at follow-up, histology is not always an absolute indicator of the endothelialization process. Many believe there is the phenomenon of pseudo-endothelialization. Synthetic or proliferative SMC that line the surface of the vessel after injury may perform many, but not all, functions of endothelial cells. Therefore, functional studies are necessary to address the issue of true endothelialization and, subsequently, late thrombosis. Finally, the issue of modulation of collagen production by SMC needs to be addressed. The arrest of SMC migration and proliferation will not be enough to reverse the process of restenosis. It might be that paclitaxel therapy of the vessel wall also abolishes collagen production. Importantly, further in vitro and in vivo studies will help to understand antirestenotic properties of this compound.

Thus, additional experimental studies that will address all these issues might indeed allow us to see the beginning of the end of a long and difficult journey of restenosis prevention.

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REFERENCES

REPLY
We very much appreciate the comments of Kipshidze et al. regarding our report on long-term reduction of experimental restenosis using a paclitaxel-releasing stent (1). Their insights underscore the challenges we all face in translating “bench-top” triumphs to techniques that benefit our patients.

It is interesting to consider the role played by the estrogen receptor in smooth muscle cell migration and proliferation (2), and it will be important to determine whether paclitaxel’s antirestenotic effects are, at least in part, effected through this receptor system. It is worth noting, however, that paclitaxel’s effects are myriad, and attributing all to plasma membrane estrogen receptors may not be accurate. Such mechanistic insight may extend our understanding of clinical restenosis.

We reiterate concerns that experimental models of endothelial cell function are incomplete and may not always mirror responses in humans. Following experimental arterial injury, the endothelium plays an important role in guiding the healing process, modulating neointimal proliferation, controlling extracellular matrix deposition, regulating vasomotor tone, and protecting against luminal thrombus deposition. Although present laboratory methods allow us to examine the histologic impact of arterial injury on endothelial viability, specific aspects of endothelial cell function are