Editor’s Perspective

Questioning Conventional Wisdom

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In science, what seems obvious may not be true, and what is accepted as conventional wisdom, may sometimes be based on flawed assumptions. What is more obvious than the fact that the sun revolves around the earth? Each day the sun rises in the eastern horizon, and we observe it moving across the sky until it retires in the west. And yet, it is not true that the earth is the center of the universe. Galileo de’ Galilei, the scientist born in Pisa, was persecuted for questioning such conventional wisdom and supporting the theory proposed by Nicolaus Copernicus of a heliocentric universe. Ultimately, the truth could not be suppressed.

We have many examples of progress that resulted from the questioning of strongly held beliefs that once seemed so obvious. Who anticipated that a gastric ulcer could be considered an infectious disease?9 Who expected that drugs that effectively suppressed premature ventricular beats in patients with ischemic heart disease would cause harm?2 Who believed that treatment strategies associated with substantial risk reduction might be poorly adopted into practice even 10 years after the publication of the trials establishing their efficacy?3 Who could predict that an intervention that lowered low-density lipoprotein and increased high-density lipoprotein would increase mortality through possible off-target effects?4 Who was ready for evidence that elective percutaneous coronary intervention for patients with stable heart disease would not reduce the risk of dying or prevent heart attacks, and would be such an expensive approach to heart disease would not reduce the risk of dying or prevent heart attacks, and would be such an expensive approach to

widely accepted as authoritative truth. The intent is to raise important questions, address gaps in knowledge, and elevate clinical care and healthcare policy by inquiring about the impact of treatments on the patient. Circulation: Cardiovascular Quality and Outcomes seeks to provide a welcoming forum for disparate views, with the stipulation that the focus remains on the science.

Recent issues have featured articles that provide some sense of this mission. For example, economic analyses can provide valuable perspectives on how resources are allocated, even as there is debate about the methodology.7,8 In this issue, Mihaylova et al9 question conventional wisdom with a cost-effective analysis of statin use in patients with different vascular risk profiles. The study uses data from the Heart Protection Study to demonstrate the dominant role of global risk on determining the economic attractiveness of prescribing statins. The authors find that it is economically attractive to treat based on risk of at least 10% during 10 years.

The study indicates that, in contrast to conventional wisdom, it may be better to focus on a patient’s global risk in recommending treatment strategies. This emerging insight questions the treat-to-target mentality—an approach that targets a single risk factor rather than the risk of the patient as a whole. Curiously, the treat-to-target paradigm became dominant even as trial evidence from the Heart Protection Study and other trials of statins for prevention focused on the effect of a fixed dose of statin on outcomes. The trials did not explicitly test a treat-to-target strategy. Whether the study by Mihaylova et al will ultimately change guidelines, policies, and practice remains to be seen, but demonstrating the expected economic attractiveness of this approach promotes the scientific debate.

This issue also contains an article by Garcia et al10 that makes use of the Coronary Artery Revascularization Prophylaxis Trial, a randomized, controlled trial testing the long-term benefit of coronary artery revascularization before elective vascular surgery.11 Although many physicians accept the doctrine that patients with high-risk coronary disease should undergo revascularization before elective vascular surgery, the Coronary Artery Revascularization Prophylaxis Trial did not identify a benefit of this strategy. In this new contribution, the investigators focus specifically on the highest risk patients, for whom the benefits of revascularization would be expected to be greatest. Among the patients with 2 or more risk factors and ischemia on preoperative stress imaging, the event rate was 23%. However, the rate was no different between those who did and did not undergo a revascularization strategy; addressing the ischemia did not decrease perioperative risk. The editorial by Eagle and Gurmi12 reinforces this point. Similar to the study by Mihaylova et al, this study takes aim at current practice and guidelines and indicates that a new approach is warranted.

The opinions expressed in this article are not necessarily those of the American Heart Association.

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Disclosures

None.

References


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