

## Carotid plaque screening as a motivational tool for healthy behavior

*To the Editor:* Re: "Does detection of carotid plaque affect physician behavior or motivate patients?", published online in the *American Heart Journal* in October 2007 and printed in December 2007 by Rachael A. Wyman, MD, Giorgio Gimelli, MD, FACC, Patrick E. McBride, MD, MPH, FACC, Claudia E. Korcarz, DVM, RDCS, and James H. Stein, MD, FACC

In their observational study to evaluate the impact of ultrasound screening on physicians' behavior and patients' motivation, Wyman et al<sup>1</sup> conclude that showing the presence of carotid plaque does not motivate patients to make healthy lifestyle changes. However, this conclusion seems premature in view of the still limited data on this issue and some encouraging results of previous studies.

First, although previous studies using subclinical atherosclerosis as a motivational tool for smoking cessation have shown conflicting results (eg, coronary calcification),<sup>2</sup> Wyman et al<sup>1</sup> minimize the importance of a randomized clinical trial performed in a larger sample than the sample of their nonrandomized study (50 participants, 6 of them smoking). Indeed, allocating randomly 153 smokers to smoking cessation counseling with or without carotid ultrasonography, Bovet et al<sup>3</sup> have shown that providing smokers with pictures of their carotid plaques resulted in higher smoking cessation rates at 6 months with 17.6% in the screened group and 22.2% in those with plaques versus 6.3% in those without screening ( $P = .03$  and  $.003$ , respectively). The study by Bovet et al, compared with the study of Wyman et al, is larger and uses a more powerful design (experimental vs observational). The conclusion that smoking cessation rate could improve upon showing patients pictures of their own plaques cannot be dismissed based on currently available evidence.

Second, the conclusion of Wyman et al<sup>1</sup> is based on interaction tests, which assess whether motivation scores (that most significantly increased over 9 months, Table 4) differed between participants with and without plaques. However, interaction tests have limited power<sup>4</sup> in a sample of only 50 subjects (29 with carotid plaques), and negative findings are therefore not unexpected because of the small sample size. It would have been more informative to present the mean changes with confidence intervals in the motivation scores

stratified by presence or absence of plaque, so that readers might assess the strength of the negative findings. It would be interesting if the authors provide such data.

Finally, the study by Wyman et al<sup>1</sup> examines proxy outcomes (motivation scores), not clinical outcomes such as smoking cessation or medication adherence. Admittedly, larger trials are needed to provide firmer conclusions. We are currently evaluating in a large randomized clinical trial in 530 smokers the impact of carotid screening on 1-year smoking cessation rates and control of other cardiovascular risk factors.<sup>5</sup>

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