REPLY

The terms "AT_1"- and "AT_2"-receptor were confused in the introduction of our article (1). Unfortunately, some corrections that we had indicated in the galley proofs were not performed by the publisher, and instead, additional errors were introduced (page 1787, right column, second paragraph, lines 3 and 8: AT_1 should have read AT_2; and line 11: AT_2 should have read AT_1). An erratum was published in *JACC* 33(2), 1999.

In contrast with the remark in the letter of Drs. Jugdutt and Moudgil, the term "AT_2" on page 1792, left column, line 6, is correct, because the effect of AT_1-receptor blockade by candesartan was lost in the presence of AT_2-receptor blockade by PD123319 (1).

We apologize for having overlooked the study of Ford et al., published in the *Canadian Journal of Cardiology* (2). However, it is difficult to retrieve articles not listed in Current Contents.

Data on hemodynamics, regional myocardial function and blood flow during reperfusion following 90 min low-flow ischemia in our porcine model have been published previously, and have indicated the absence of a "no-reflow" phenomenon (3). Also, the relationship between infarct size and subendocardial blood flow at 5 min ischemia is not different from the relationship between infarct size and blood flow at 85 min ischemia in this model (4). A relationship between infarct size and the area at risk was not reported in the present study (1), because—as previously published studies of rats (5), rabbits (6) and dogs (5)—we find no such relationship.

We do not share the understanding of Drs. Jugdutt and Moudgil that the reduction of infarct size achieved by AT_1-receptor blockade (1) is due to a vascular mechanism, whereas the beneficial effects of AT_2-receptor blockade on the postischemic recovery of contractile function (7) are of nonvascular origin. In fact, in both studies, antagonists of the AT_1- or AT_2-receptor were administered from the vascular site, and no distinction was made for a vascular or myocardial site of the AT-receptors involved in the observed cardioprotection.

We do, however, agree with Drs. Jugdutt and Moudgil that it is important to study the cardioprotective effects of AT_1-receptor blockade in patients and to better define a patient population that may particularly benefit from such treatment.

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Additive Effects of Simvastatin and Hormone Replacement Therapy in Hypercholesterolemic Postmenopausal Women

Sbarouni et al. (1) reported in the November 1 issue of the *Journal*, that hormone replacement therapy combined with simvastatin could exert beneficial effects on plasma lipids in hypercholesterolemic postmenopausal women. The study was randomized and placebo-controlled and included 16 postmenopausal women. Recently, we have documented that in a similar population, 10 mg simvastatin combined with 0.625 mg estrogen and 2.5 mg medroxyprogesteron acetate daily could affect serum lipid levels more favorably than simvastatin 10 mg alone (2). The study was not controlled, but did include 50 patients in each treatment arm, and had a follow-up period of six months. The mean percent reduction in total cholesterol and LDL cholesterol and the mean percent increase in serum HDL cholesterol concentrations were also significantly greater in the combination group both at three and six months (Table 1). Furthermore, significantly more patients in the combination group attained their target treatment goals dictated by the U.S. National Cholesterol Education Program Adult Treatment Panel II Guidelines.

The findings of both studies point out an additive effect of simvastatin and hormone replacement therapy, and suggest that hormone replacement therapy could be a substantial component aiding the management of hypercholesterolemia in postmenopausal women when balanced for other costs and possible related risks.

Table 1. Effects of Simvastatin and Hormone Replacement Therapy on Lipid Profile

Mean % change (at 6 months)	Simvastatin 10 mg + HRT	Simvastatin 10 mg alone
Total cholesterol	14.6 ± 7.7*	11.3 ± 7.4
LDL cholesterol	23.3 ± 9.7†	15.8 ± 12.3
HDL cholesterol	21.3 ± 15.2†	11.1 ± 12.5
Triglycerides	9.8 ± 15.3	7.3 ± 9.0

HRT = hormone replacement therapy; 0.625 mg estrogen + 2.5 mg medroxyprogesteron acetate daily.
*$p < 0.05$, †$p < 0.005$.

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Aortic Debris and Coronary Guiding Catheters

I read with interest the recent article by Keeley and Grines regarding scraping of aortic debris by coronary guiding catheters. This has been a problem for all interventional cardiologists, and it is rewarding to see this issue addressed in a quantitative fashion in this publication. We have had experiences similar to those of the authors in identifying atheromatous debris, particularly with the use of left coronary guiding catheters.

There are several issues not addressed in the article that I believe deserve mention. First, it has been our experience that the larger bore guide catheters cause release of more atheromatous debris. There seems to be a noticeable increase when switching from 8 fr to 9 fr guides.

Second, a method of minimizing or avoiding the scraping of aortic debris is the insertion of an obturator inside the guiding catheter. The one that we commonly use is a DVI introducing catheter, which is 110 cm long. For a 9-fr guide, we use a 7-fr obturator. For an 8 fr guide, we use a 6 fr obturator. An alternative would be the use of a 110 or 125 cm diagnostic multipurpose catheter to serve as an obturator. With the use of the obturator, there is a smooth transition from the wire to the guiding catheter and thus, the amount of aortic debris is significantly reduced.

In our experience, the most voluminous release of debris is during renal artery stenting procedures. Many of these patients have diffuse aortic atherosclerosis and the shape of the renal artery guide catheters is extremely conducive to scraping of aortic debris. Again, we have found that the use of obturators significantly minimizes this effect.

REPLY

In our practice, the trend has been to downsize guiding catheter size as well as femoral sheath size. From the start of this prospective analysis, newer balloon and stent designs have made the use of 6 and 7 F guiding catheters technically feasible and desirable. Only 80 catheters of the 1,000 catheters evaluated were 9 or 10 F in size (0.08%); most were 8 F. When this small subgroup was analyzed, there was no statistically significant difference in the amount of debris collected. This may be primarily a result of a small sample size.

We believe that most aortic scraping occurs due to catheter shape, particularly the extent of the secondary bend. This is perhaps why in your practice Krainin et al. have noted increased debris collection with the use of renal artery guiding catheters. Properly sized obturators not only fill the lumen, but also straighten the curves of the guiding catheter making it less likely to scrape the aorta. Although we routinely use obturators with large bore (10 F) guiding catheters, we do not do so with 8 and 9 F guiding catheters. It is unclear whether the use of obturators may actually hinder the exit of the debris from the guiding catheter and lead to increased risk of embolization.

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ST Elevation Secondary to Microvascular Dysfunction

Murakami and colleagues (1) recently described three cases of spontaneous ST elevation in patients with angiographic normal coronary arteries and implicated microvascular dysfunction as the cause of the transmural ischemia. This hypothesis is valid if large vessel coronary spasm has been adequately excluded. Two aspects of their report require further clarification before this can be satisfied (1). The serial electrocardiograms (ECGs) that reported ST elevation also demonstrated T wave inversion, an early ECG sign of reperfusion. Thus, the angiographic snapshot may have unfortunately been taken after resolution of the transient coronary spasm (2). The acetylcholine provocation test used to exclude coronary spasm appears to have been performed after high-dose intracoronary nitrates, thereby potentially inhibiting the spastic response. If these details have been addressed, the findings of