

Correspondence

Abrupt withdrawal of atenolol in patients with severe angina: comparison with the effects of treatment

Sir,

I have read the report by Walker *et al* (1985; 53: 276-82) on the results of a study on the effect of atenolol withdrawal in patients with chronic stable angina pectoris. As a result of their findings, they came to the rather dangerous conclusion that atenolol withdrawal can be expected to carry no appreciable risk of precipitating a coronary event in patients with little or no angina.

In 1979, Meinertz *et al* suggested that the abrupt discontinuation of any beta blocking agent should be expected to produce a withdrawal syndrome similar to that described for propranolol.¹ The point at which rebound phenomena occur can be delayed for as long as 21 days after withdrawal²⁻⁴; the duration of the study performed by Walker *et al* was therefore too short to permit a conclusion that atenolol is devoid of this risk. Furthermore, in a different study, there was evidence of rebound withdrawal phenomena in two of 14 patients after substitution of atenolol by placebo.⁵ Others have shown no difference between the beta blockers propranolol, oxprenolol, atenolol, and acebutolol in their propensity to cause a rebound increase of heart rate under conditions of increased sympathetic drive after withdrawal.⁶ The statement that atenolol has not yet been associated with a withdrawal syndrome is therefore incorrect.

Clearly there is a great deal of variability in the appearance of the beta blocker withdrawal syndrome and advice that treatment with any beta blocker should be withdrawn gradually, irrespective of the disease under treatment, still stands.

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References

- 1 Meinertz T, Just H, Kasper W, Kersting F, Breuing K-H. β -blocker withdrawal syndrome? *Lancet* 1979; **i**: 270.
- 2 Shand DG, Wood AJJ. Propranolol withdrawal syndrome—why? *Circulation* 1978; **58**: 202-3.
- 3 Alderman EL, Coltart DJ, Wettach GE, Harrison DC. Coronary artery syndromes after sudden propranolol withdrawal. *Ann Intern Med* 1974; **81**: 625-7.

- 4 Miller RR, Olson HG, Ezra AA, Mason DT. Propranolol withdrawal rebound phenomenon. *N Engl J Med* 1975; **293**: 416-8.
- 5 Kristensen Bent Ø. β -blocker withdrawal syndrome? *Lancet* 1979; **i**: 554.
- 6 Ross PJ, Lewis MJ, Sheridan DJ, Henderson AH. Adrenergic hypersensitivity after beta-blocker withdrawal. *Br Heart J* 1981; **45**: 637-42.

This letter was shown to Dr Walker, who replies as follows:

Sir,

While we respect Dr Ashford's concern regarding the potential ill effects of abrupt beta blockade withdrawal we maintain that our results justify our conclusions. The suggestion of Meinertz *et al* was an extrapolation from one case (which concerned metoprolol),¹ while the contention that rebound phenomena can occur as late as 21 days after withdrawal is based on just two patients, both of whom had developed unstable angina within 24 hours of propranolol withdrawal.² Among 21 cases of the "propranolol withdrawal syndrome" in whom the timing of events was stated all but three occurred within seven days of withdrawal.²⁻⁵ Rebound adrenergic hypersensitivity—when it has been demonstrated^{6,7}—has always been maximal within seven days. Hence it cannot be confidently stated that these late events were rebound phenomena. While we accepted in our paper that our post-withdrawal period might ideally have been longer than 144 hours, it nevertheless included that time during which other workers have demonstrated rebound hypersensitivity under conditions of increased sympathetic drive.⁷

Our statement that "atenolol has not as yet been associated with a withdrawal syndrome" is to our knowledge correct according to the definition which we and others have applied⁸: that is, one inclusive of serious coronary events. The two (hypertensive) patients mentioned by Dr Ashford had no cardiac symptoms. Our data also showed that abrupt withdrawal of atenolol produces a gradual loss of beta blockade, which is why a gradual reduction in dosage is unnecessary.

We have attempted to avoid the rather anecdotal