Withdrawal of Antihypertensive Therapy in the Elderly

The Issues

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Summary

Studies of antihypertensive drug withdrawal suggest that at least 20% of selected older patients with hypertension can remain normotensive without drug treatment for periods of up to 5 years. Success of drug withdrawal is greater in those patients controlled on low dose monotherapy who have low on-treatment blood pressure (BP), are not overweight and who have no ECG evidence of left ventricular hypertrophy. Compliance with lifestyle advice may increase the chance of successful drug withdrawal. Unfortunately, many older hypertensive patients have poorly controlled BP despite treatment with antihypertensive drugs, and are overweight. These factors limit opportunities for drug withdrawal although they may not be so much of a problem in the very elderly. Patients who could be considered for a trial of antihypertensive drug withdrawal are those unhappy with such therapy who also: (a) have well controlled BP on monotherapy with no significant target organ damage, (b) have ‘white-coat’ hypertension, or (c) are very elderly (>80 years). The withdrawal of antihypertensive drugs can improve drug-induced metabolic abnormalities and symptoms, and appears safe providing there is a gradual reduction in drug dosages and close follow-up to detect a return to hypertension.
Elevated blood pressure (BP) continues to be associated with a greater risk of cardiovascular disease in older people,[1] although the strength of this association in the very elderly is less clear.[2,3] Accordingly, studies have shown that pharmacological treatment of hypertension is of benefit in reducing these risks in people up to the age of 80 years and perhaps beyond.[4-6] Achieving and maintaining ‘normotension’ in individuals diagnosed as hypertensive is therefore desirable but, as the prevalence of hypertension has been estimated at >40% in people aged 60 to 79 years, the potential number of older individuals eligible for treatment is enormous.[7] Essential hypertension is considered incurable but treatable. Therefore, the concept of lifelong antihypertensive drug therapy has been established and widely accepted.

So why consider antihypertensive treatment withdrawal? Clearly, it is important to maintain normotension and hence reduce the risk of cardiovascular events. If normotension is maintained after drug withdrawal, the cost, adverse effects and any detrimental effects on quality of life incurred by drug treatment will be removed. This may be of particular relevance in patients who have continued on treatment well into their 80s, an age at which the benefits of treatment are less clearly established.[8] Also, drug withdrawal may shift the focus of concern in patients with hypertension from purely drug-based therapy to a broader consideration of reduction in overall cardiovascular risk. National and international guidelines on the management of hypertension now recognise that, in patients with well-controlled BP, a reduction in the dose and number of antihypertensive drugs, or cessation of drug therapy, is indicated.[9-11]

1. Studies of Antihypertensive Drug Withdrawal

Reduction or complete withdrawal of antihypertensive drug therapy has been considered since soon after the widespread introduction of such therapy. The first report of a drug withdrawal study was in 1956 by Perry and Schroeder.[12] In a later study,[13] these same authors observed prolonged remission of hypertension in 5% of 316 patients after discontinuation of drug treatment. In 1962, Page and Dustan[14] withdrew all treatment from 27 patients with previously severe hypertension; in 18 the BP increased, requiring reinstitution of treatment, but in the other 9 (33%) BP levels remained satisfactory without treatment for between 6 months and 5 years. Since this time, there have been many such studies, most uncontrolled and carried out in middle-aged patients. Comparison between studies and interpreting their relevance to clinical practice can be difficult as the degree of patient selection and BP criteria for withdrawal and reinstitution of therapy vary.

Table I summarises some of the studies carried out in middle-aged people which, on average, suggest that one-third of selected patients can be successfully withdrawn from treatment for periods of 1 to 4 years. Substitution of nonpharmacological therapy, such as bodyweight loss and sodium restriction, may more than double the probability of successful drug withdrawal.[22,27]

1.1 Studies in Elderly Patients

There have been relatively few studies of antihypertensive treatment withdrawal in the elderly, and only one where nonpharmacological methods have been substituted for drug therapy over a prolonged period, despite increasing evidence of the efficacy of such methods in this age group.[30-32] Early studies used criteria for defining hypertension at BP levels greater than those accepted today, making interpretation of results for today’s practice unclear. Hansen and colleagues[33] withdrew antihypertensive therapy in 169 patients aged over 50 years; 51 (30%) rapidly became hypertensive. Of the remaining 118, 105 were over 60 years of age (mean age 75 years) and had diastolic BP (DBP) <110mm Hg three weeks after withdrawal. After 1 year, 43 (41%) of these patients had DBP <110mm Hg and remained untreated, while 15% developed hypertension (DBP >110mm Hg) and were treated. In 32% of patients, although DBP did not exceed 100mm Hg, treatment was restarted because of angina or congestive cardiac failure.