

Hypertension: who to investigate and treat

HYPERTENSION is a common disease affecting about 20 per cent of the adult population.¹ In 'essential' hypertension the blood pressure is elevated and complete medical evaluation fails to reveal any attendant abnormality; in about 10 per cent of all hypertensive patients it is possible to demonstrate an identifiable cause.² In most of these the hypertension is secondary to a variety of renal or adrenal diseases, such as renal artery stenosis, parenchymal renal disease, Cushing's syndrome, primary aldosteronism and pheochromocytoma.³ Before considering the investigation of hypertension it is necessary to answer some empirical questions.

Why treat hypertension? This question may be firmly answered. Hypertension is the cause of the cardiovascular disease seen in patients with hypertension. It has been clearly demonstrated that reduction of elevated blood pressure prevents the development of the cardiovascular manifestations of hypertension, such as strokes, congestive heart failure, renal insufficiency, coronary heart disease and generalized arterial disease.⁴ Even when treatment is instituted at a relatively advanced stage, the subsequent morbidity and mortality is significantly reduced.⁴ Even within the normal range subjects with higher pressures are more prone to the development of cardiovascular complications and death than those with lower pressures and this relationship begins with levels as low as 100/60 mmHg.² The terms normotension and hypertension thus become meaningless concepts.³ However, it is obvious that in practice there have to be certain guidelines and this poses the next question: What constitutes an elevated blood pressure or put another way—at what level of blood pressure should the patient be investigated and treated?

Automatic recording techniques have demonstrated considerable daily variations in the arterial pressure and the general practitioner's assessment relates only to the pressure under the rather special circumstances of measurement in the surgery.³ Although this measurement is not representative of blood pressure fluctuations it is reasonably repeatable,³ and one has to start somewhere. It is, however, important to realize that such estimations have their limitations. There is conflict in the literature as to what should be regarded as a significantly elevated blood pressure but the general consensus of opinion now favours treatment in patients with a diastolic pressure which is persistently 95 mmHg or higher.^{1,3,4} Because women tolerate hypertension better than men and because women are less likely to develop cardiovascular complications, it is probably reasonable to regard a diastolic pressure of 105 mmHg or greater as significant in women.³ However, it has not

yet been conclusively shown that treatment is beneficial in patients with diastolic pressures below 105 mmHg and the level of 95 mmHg may be too strict.³ In deciding on the blood pressure at least three recordings should be taken on separate occasions under similar circumstances. The presence of a family history of hypertensive cardiovascular disease, especially in a male, would be an indication for therapy at a persistent diastolic level of 90 mmHg.⁴ It is possible that the selection of patients for treatment will be rationalized soon, as it is suggested that patients with equal degrees of hypertension are not at equal risk; patients with essential hypertension and low renin activity appear to be protected from the development of strokes or heart attacks.⁵ If this observation can be extended there might be little reason to subject these patients to treatment. Conversely patients with high renin activity may be especially prone to the development of major cardiovascular complications and would justify early and intensive therapy.⁵

Having decided that the patient has hypertension which warrants treatment, the next problem is to decide on how detailed an investigation is necessary. A detailed history is important, with particular emphasis on the family history. A complete physical examination, including examination of the optic fundi, should be performed and the weight should be recorded. Minimal laboratory investigations should include microscopic examination of a fresh specimen of urine, blood urea and serum electrolyte estimations. A chest X-ray and ECG are also considered basic requirements.² These investigations should be within the reach of most general practitioners and if these are normal and there is nothing on clinical examination to suggest a cause for the hypertension (for example an abdominal bruit), it is reasonable to regard the case of one of essential hypertension. Ideally speaking investigations should include urinary catecholamine estimation and an intravenous pyelogram. There is some controversy as to whether or not intravenous pyelography is worthwhile and it has been suggested that it should be reserved for the relatively young with moderately severe hypertension, older patients with severe hypertension and patients who do not respond to drug therapy.²

References

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