PRACTICE OBSERVED

Trainees' Corner: Managing Chronic Disease

Hypertension

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This article is based on an audiovisual presentation made for vocational trainees in general practice by the MSD Foundation. Further information about the tape-slide programme on which this series is based is available from the MSD Foundation, Tavistock House, Tavistock Square, London WC1.

A well-known general practitioner, John Fry, writing on managing hypertension in general practice stated, "The problems are immense, the challenges are great, and the whole subject is full of uncertainties." Defining our own individual policy is difficult enough, but deciding on a practice policy is even more difficult. Some of the many questions you will have to consider are: should you seek out the patients with hypertension in your practice and, if so, how? When will you treat hypertensive patients? How will you treat them—with or without drugs? How will you ensure that they continue with treatment over a long period? We want to prompt you to devise a policy for managing the hypertensive patients in your practice.

A typical case

Samuel Berger is 47 years old now and may be dead from a stroke or left ventricular failure in about 10 or 15 years' time. At the moment, he is a senior clerk, meticulous in his job, and a bit of a worrier. He tends to work longer hours than his colleagues and smokes about 20 cigarettes a day. Because of his chronic indigestion he is well known in your practice, but you are seeing him for the first time. His wife has suggested that he should come because he twisted his knee getting into his car, and it is now swollen and painful. You deal with his knee.

Three questions arise:

(1) Do you know the blood pressure of this patient?
(2) If you do not (there is no such measurement in the patient's record), would you take it at this consultation?
(3) If not, can you arrange for the practice nurse to take it?

For the purpose of later discussion on practice policy we will suggest some possible targets as we go along.

The first target is to make a positive attempt to know the blood pressure of all patients, men and women, in the practice between the ages of 35 and 65

How you do it depends on the resources available to you. Setting up screening clinics to which patients are invited is one method that has been effective, but this requires the doctor's time and dedication. Another method is to use patient attendances, such as that of Sam Berger. In order to know which patients need their blood pressures taken, a preliminary search of the records must be made. When no acceptable blood pressure has been recorded in the preceding five years the envelope should be conspicuously flagged, or (better) a note made on the next line of the current continuation card "test BP next visit." This search is quite a chore, but it can be done by a trained nurse or even a receptionist. Ninety per cent of patients attend over a five-year period so by this means the majority of your patients

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may be screened. Because of the low yield, patients under 35 years of age need not be systematically reviewed.

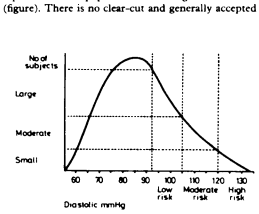
If you agree that hypertension should be detected and controlled, then someone has to do it. In many practices nurses not only carry out the initial blood pressure measurements but also help with the hypertension clinics. Most of them are adept at the technique and understand the factors influencing blood pressure readings. Other nurses, particularly those who have not practised for some time, may require retraining to make sure the readings that are passed to you for analysis are correctly made. There are a number of points about the right way to use a sphygmomanometer. Many of these were well covered in the articles by O'Brien and O'Malley, *ABC of Blood Pressure Measurement*, published in the *BMJ* in 1979. Instructions on how to maintain equipment and on the technique of measuring blood pressure should be put on the treatment room notice board. Designing instructions of this kind will also allow a consensus to be reached between the doctors on questions like which diastolic point is to be used (phase four (muffling) or phase five (extinction)).

Labelling a patient hypertensive

Returning to Sam Berger, let us assume that you have decided that he should have his blood pressure measured and it is 180/105 mm Hg. Nobody would suggest after this one reading that he should be labelled a hypertensive, but it is an indication that he needs to be investigated further. The first step is to take his blood pressure again when he is less apprehensive. It is common practice now to take at least three readings over a short period.

In a study carried out by Tudor Hart in South Wales of 476 men with an initial diastolic reading of over 100, 76 of them had a raised diastolic pressure on the second reading and by the third reading there were only 34. Sam Berger proves to be one of the hard core, for his three measurements averaged out at 170/105 mm Hg. Now do we label him as hypertensive?

The concept of hypertension rests on population studies that indicate an increased morbidity and mortality with an increase in blood pressure. The difficulty in clinical practice lies in deciding what is acceptable and what is not. Epidemiological surveys show that there is a bell-shaped distribution curve of blood pressure in the population with a slight skew at the upper end (figure). There is no clear-cut and generally accepted point



Distribution of blood pressure in the population in Britain.

at which a person becomes hypertensive. The risk of developing serious complications—cerebrovascular accidents, heart failure, renal failure, and coronary artery disease with myocardial ischaemia—increases almost exactly in parallel with the rise in blood pressure from measures that are usually thought of as completely safe. For instance, a person with a blood pressure of 130/90 mm Hg at age 30 has a risk nearly 1½ times greater than average of developing a stroke. Mortality from stroke for any given blood pressure is the same for men and women, but overall mortality is higher in men because of the greater incidence of coronary artery disease in men.

Sam Berger is thus on the borderline between those with a low risk of getting these complications—those with diastolic readings between 92 and 105 mm Hg—and those at moderate risk with readings from 105 mm Hg to 120 mm Hg. Arguably it is this group that presents the most problems in management in general practice.

Investigations

So, having obtained Mr Berger's blood pressure readings, what do we do next? Which investigations would you consider to be worth carrying out? In most cases there is no secondary disease accounting for the raised blood pressure. Watch, however, for renal disease (albuminuria, raised blood creatinine or urea), primary aldosteronism (low blood potassium), or coarctation of aorta (reduced or delayed femoral pulses). Check that the patient is not taking excessive sympathomimetic drugs, antidepressive drugs, or steroids. (Make sure that women are not on the contraceptive pill.)

Examination
Weight/height
Optic fundi
Heart
  Look for arrhythmias,
  Cardiac enlargement,
  Raised jugular vein pressure,
  Basal crepitations,
  Ankle oedema
Abdominal examination
  Listen for abdominal bruits,
  Feel femoral pulses
Tests
  Urine—albumin and sugar
  Blood—creatinine, urea, cholesterol, sodium and potassium
  Chest x-ray film for cardiac outline
  An ECG is valuable as an index of cardiac disease and as a baseline against which to measure future changes
IVP and tests for phaeochromocytoma are needed only in those under 40.

When to treat

Let us assume that our investigations of Sam Berger have provided no evidence of secondary hypertension or any complications arising from his raised blood pressure. He has no symptoms, and apart from his indigestion he is feeling reasonably fit for his age and lifestyle. Would you now start treatment?

If his blood pressure were lower, say a diastolic reading between 95 mm Hg and 100 mm Hg, then the decision would be even more difficult. The Medical Research Council long-term trial under way now is designed to discover the answer—if there is one. Together with the results of other trials it may help us to decide whether it is beneficial to treat those whose pressures are only slightly towards the upper end of the distribution curve.

The second target is to establish and maintain hypotensive treatment in all patients with a mean blood pressure over at least three readings of 180 mm Hg systolic or 105 mm Hg diastolic (phase 5).

The exceptions to this target are people over 70 years of age and those with severe accompanying disease for whom antihypertensive treatment would be inappropriate.

The better blood pressure is controlled the fewer are the chances of complications. It is wise to aim at a reduction of systolic pressure to 140 mm Hg or below and diastolic pressure to 90 mm Hg or below, but in some individuals this may not be possible without side effects. The patient should be able to lead a normal life, and the doctor should avoid worrying him by being preoccupied with the patient's blood pressure.

Returning to Sam Berger, what points should you cover in the interview with him?
—family history (strokes and heart attacks in first-degree relatives)
—diet and weight
—exercise (work and leisure exercise habits)
—smoking (duration, severity, and any attempts to stop)
—information about the nature of blood pressure and the need for continuous treatment.

No attempt is made here to deal with the complexities of antihypertensive treatment. Briefly, most doctors' first choice is either a thiazide diuretic or a beta-blocker. If, after a sufficient period of trial and adjustment of dose, the blood pressure is not sufficiently reduced then the second drug may be added.

Following up hypertensive patients

Most studies in Britain show a prevalence of about 7% for hypertensive patients (diastolic pressures >105 mm Hg). Since an "average" practice with 2500 patients will have, say, 1000 in the age range 40 to 70 years this would mean 70 patients in need of treatment. Some doctors now review patients of this kind in a special clinic—like the antenatal clinics. This enables the efficient use of nurses to take the blood pressures and do weight and urine tests.

The third target is to review regularly all patients who have a raised blood pressure, whether having treatment or not, and to assess their smoking habits, body weight, and usual physical activity.

One of us (JC) has devised a way of reviewing patients. Patients aged under 65 are classified into three boxes on the basis of their blood pressure. The first box contains details of patients who are under active treatment. The defining criteria for inclusion depend on the decision made on when to treat, but they might be: "all patients with a mean blood pressure on at least three separate readings of 180 mm Hg systolic or 105 mm Hg diastolic, or both." A register or card index of patients in this box is kept in alphabetical order with the date of last attendance recorded. The second box contains patients with "borderline elevations" of blood pressure who are examined yearly. In the average practice this would mean about six or seven patients a week—about a quarter of the age group in the practice from 35 to 60—to be checked on. The defining criteria here might be: "all patients with any recording of systolic pressure over 150 mm Hg or diastolic pressure over 90 mm Hg who are not in the treatment box." A register or card index is kept in month order of attendance for these patients. Patients whose blood pressure falls below the defining criteria for the borderline box are in the remaining theoretical "normal box." No special register is kept of these patients, but their blood pressure should be checked on attendance at least once every five years.

Such a system, however admirable, places a greater (some say intolerable) burden on the general practitioner. It is not practicable to carry out an adequate programme like this without the help of nursing or ancillary staff.

Treating the elderly

Another controversial aspect of hypertension is whether in the elderly it is a pathological process requiring treatment to reduce morbidity or mortality, or whether it is part of the normal physiological process of aging. Again, any definition of hypertension can be based only on arbitrary figures. Readings above, say, 160/96 mm Hg may be due to genetically determined causes or to atherosclerotic changes in the arterial wall, which produce predominantly systolic hypertension. If the latter is suspected, is the degree of atheroma such that no improvement is likely to occur? What is the degree of damage to end organs? What are the risks of treatment and of non-treatment? Studies have shown that the risk of a cerebrovascular accident is twice as high in patients aged 65-74 when the blood pressure is above 160/95 mm Hg and that control of hypertension in patients who have had a stroke reduces the incidence and improves survival. No published studies, however, have shown conclusively the general benefits of reducing moderately raised blood pressure in older patients.

Several trials are being conducted, and until the results are known the benefits of initiating treatment in the elderly will remain problematical. The decision will be influenced largely by factors other than the blood pressure—for example, the presence of other diseases and the mental state of the patient. Sustained high pressures (systolic 200 mm Hg, diastolic phase 5, 110 mm Hg) are probably worth lowering if this can be done without causing symptoms. Thiazides and beta-blocking agents are the drugs of choice. A slow and gradual reduction, carefully monitored, is the aim.

The patient referred to in this article is fictitious.

ONE HUNDRED YEARS AGO We hear from Durham news, or rather rumours, of a serious character. Durham has tended more and more to occupy of late an honourable and promising position among medical universities of England, partly making up the shortcomings of other English Universities. Until a few years ago, all candidates for the medical degrees there were obliged, before going on to the degree examinations, to pass an examination equivalent to that for the B.A. at Durham. Recently, a more liberal regulation was introduced, by which candidates were permitted to take the Preliminary Fellowship of the Royal College of Surgeons of England, in place of the Durham examination. In consequence of the change so introduced, the medical department has taken on a new development, and the medical degrees have been rendered practicable of attainment by the profession generally. The sudden abolition of the Preliminary Fellowship by the College of Surgeons has created an unexpected complication. Failing the Preliminary Fellowship, there is no alternative examination open to intending candidates, unless they have entered at or graduated at a university, except the above-mentioned slightly modified B.A. examination at Durham. This examination, it is rumoured, the Senate of the University intend to uphold, or, at all events, to replace only by an examination of so high a standard as to be next to impracticable. The effect of such a resolution on the part of the Senate would be practically the closure of the only door to graduation open to the majority of those who, having intended at the commencement of their course of study to obtain simply a medical or a surgical qualification, find, later on, an university degree very desirable. Such a result would not only involve great loss to the University itself, and especially to the medical department, which it is in a fair way to develop indefinitely, but be very regrettable as a loss to the country at large, at a time when university education and extension are being more and more sought after. As in these directions the Senate of the Durham University are bestirring themselves, it is to be hoped that they will formulate some liberal measure by which the present difficulty may be tided over. At Cambridge, the recent modification in the regulations, by which the previous examination is fixed as the only Arts examination required as a preliminary before admission to the medical course and degrees, is being followed by the most satisfactory results. Similar results would undoubtedly follow, if a similar change were made at Durham. It is of vital importance to the future extension and usefulness of the University, and of great importance to English students of medicine, that a liberal course should be taken in this matter. (*British Medical Journal*, 1881.)

Unemployment in My Practice

Walworth, London

ROGER HIGGS

"You don't know how much you need it till you can't get it," said the plasterer. Out of work, and now left on his own with his mother and his own two children, he had always felt that he had a trade that would be in demand. Not any longer. A winter landscape lays bare the unexpected shape of London plane trees, and as jobs fall we are now beginning to see how much, and why, our patients need work.

History has up to now been kind to Walworth. A London "village," left alone in the marshes south of the Thames by invading Saxons, it has its own special pride and self-confidence. Its people, living round the East Street market, now emerge to serve and service the City as civil servants or cleaners, in the print or the building trade. Like Mr Wemmick in *Great Expectations*, who lived here, many are concerned with both sides of the legal process, with a consistent interest in "portable property." Dickensian homes have given way to high rise, but for old Londoners, the Irish, and new immigrants, there has always been work.

Today the expectations are not so great. My first Monday patient on my return from holiday was as white with frustration and pain as I was brown with contentment. This was not the only uncomfortable contrast. Her husband was a taxi driver who had broken his leg in an accident. She meanwhile had two weeks of back pain and sciatica, and had struggled on in her job as a cleaner to keep up the family income. She asked not for rest but for referral to an osteopath: "Someone has to do something." She felt that if she took time off work she might well lose her job, and could no longer be sure of finding another. I have always thought that patients are much better to stay at work than they are popularly supposed to be, and this has intensified recently. Time and rest are effective remedies and hitherto cheap, even if hard for a housewife to swallow; but they are becoming more difficult to prescribe. That Monday I was able to persuade her to accept the prescription, and 10 days later she was much better and back to work. Her reaction, however, underlined for me how I must become more versatile in using any techniques at my disposal to obtain a speedy recovery and more open to refer without delay to a more effective therapist when necessary—on whichever side of a professional chalk line he or she might work.

It is not just lack of money that creates poverty. The wife of a local carpenter had brought her children to us recently with a number of "accidents," and came again to ask if she was pregnant. Once I could show clearly that she wasn't, the floodgates of relief were open, and a very unhappy family was revealed. Both parents had fought to be free of the effects of deprived and violent childhoods, and in their marriage all had gone disarmingly well until six months before I saw her, when her husband had lost his job. He had never wanted her to work, their home was immaculate, the children tidy and well cared for. The change now was dramatic. He was home all day, making a mess with unfinished woodwork, getting irritable with the children, drinking much more than he should. "He'll be in bed when I get home and want to make it." Suppressing my reaction to the Freudian pun, I realised she was saying that she loved him no more: and wanted out. For better, for worse, for richer, for poorer—but not for lunch.

A young Irishman was waiting for me later at my afternoon clinic in a local Department of Health Reception Centre—another South London connection with the highroads stretching back beyond George Orwell, bringing to town any who might seek a fortune of some sort. Jimmy was quite bright, well built, and usually healthy, but had been trapped into wildly heavy drinking, and had gradually slid down the well-known slope, losing job, lodgings, self-esteem, and hope. He was very lonely, as companionship was only to be found at work or in the pub. Now dry and in control, we could both see how he had to climb back up again, and the first step was a job. But this treatment was no longer on the market. As with the carpenter's wife, I had to fight hard inside my head to prevent my offering a potentially dangerous alternative prescription of tranquillisers. This fight, it seemed, was going to get harder.

I had thought when I had seen the plasterer that he simply needed work to get money. But as the weeks have passed I have seen that it is his own value, not that of the pay packet, that is in question. For the others, losing work had threatened family survival and the only safe source of companionship and therapy. The effects of this may be as far-reaching as other losses, like bereavement and divorce, and I know I have to develop sensitivity accordingly. I have to look at how I and my patients view our jobs. For myself: while some doctors are threatened with unemployment and our families by the stress we bring home from the surgery, I now challenge the assumption that I acquired in my training that the good doctor works long hours, and idle hands are sinful. For my patients: it requires a new look at their reactions to redundancy or to a world with no jobs for them. Should we help them to accept this, and adjust accordingly, or protest and fight for something better? As I drive home to Brixton past the ugly burnt out sockets of houses that once stood in Railton Road, now sanitised by Council tin, I feel that this apparently simple question is still unanswered.

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