Personal Therapeutics

Hypertension

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In the management of a patient with hypertension the first step is to answer (from the history, clinical examination, and standard tests) four questions (table I).

The second step is to decide whether treatment is warranted, and a guide is given in table II. Many different views are held on this. Some say that hypertension should not be treated in anyone over the age of 70 (or even 60): I disagree, but certainly overtreating the elderly must be avoided. Others say that a diastolic pressure of 94 mm Hg in a person below 40 or 98 mm Hg in someone between 40 and 59 deserves treatment: I concede that the demarcation line between optional and unnecessary may be crossed at times, but until the results of current large-scale trials of treatment are available it seems better to concentrate on detecting the severer cases and treating them adequately.

Most of the factors shown as militating for or against treatment are self-explanatory. Reluctance to be treated should be respected, unless there are definite danger signals. Other medical conditions (such as diabetes or asthma) that may themselves need a regimen of two or three different drugs

TABLE I—Four basic questions

Questions	Comments
(1) How high really is the blood pressure?	We must not base a lifetime of tablet-taking on one or two casual blood pressure readings
(2) Is there any discoverable or contributing cause?	Exclude coarctation, endocrine, or renal factors. Consider possibility of drug effects: oral contraceptives, anti-inflammatory drugs, licorice and derivatives, steroids, combinations of tricyclic antidepressants, and a vasoconstrictor or antimigraine drug. Treat obesity if possible, and advise about stress
(3) How much organ damage is there?	Especially to the heart, kidneys, and cerebral vessels
(4) Is there any associated or coincidental condition present that could affect treatment or prognosis?	Smoking, heavy alcohol intake, hyperlipidaemia, diabetes, anaemia, asthma, depression, etc. Try to deal with these

should make us a little wary of adding yet another group of drugs unless this is definitely needed. Also, some conditions make the choice of antihypertensive drugs more difficult, and this may tip the scales towards withholding treatment in a borderline case. Patients with psychiatric problems of any severity may be better off without complicating treatment, as also may physically disabled people who are unsteady on their

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TABLE II—When to start antihypertensive treatment

<div>Drug treatment at these levels is advisable when any of the following are present: definite symptoms; high systolic blood pressure; bad family history; ECG signs of left ventricular hypertrophy; enlarged heart; hyperlipidaemia; ischaemic heart disease; renal disease; or migraine</div>	Diastolic blood pressure (mm Hg)*				Antihypertensive treatment	
	Age < 40 years		Age 40–59 years			Age ≥ 60 years†
	130		130		130	Essential
	125		125		125	
	120		120		120	
	115		115		115	Advisable
	110		110		110	
	105		105		105	Optional (but if not given, then observation is essential)
	100		100		100	
	95		95		95	Unnecessary (nearly always)
90		90		90		

Factors militating against drug treatment at these levels: no symptoms; low systolic blood pressure; normal ECG; normal heart size; reluctance to be treated; mental disease; physical disability; obesity; gout; diabetes; asthma, etc; and poor response to simple treatment

*BP values must be based on at least three readings taken sitting, in the first place, on each of three separate occasions. The figures are intended to represent phase 5; if phase 4 is used the limits should in theory be set slightly higher.

†Age > 70 is a factor against treatment in borderline cases.

feet. A poor response to simple treatment (such as a diuretic or a beta-blocker or both) should lead us to review the position and ask ourselves, before we start a complicated regimen, whether the original state of the patient really warranted this.

It seems reasonable to look on hyperlipidaemia and coronary artery disease as additional reasons for maintaining good blood

TABLE III—Contraindications and indications for specific drugs

	Condition	Drugs contraindicated
Are there any contraindications to specific drugs?	Gout, diabetes, hypokalaemia	Thiazides
If so, avoid these drugs if possible	Asthma, heart failure, Raynaud's disease, atrioventricular block (especially 2nd degree or complete)	Beta-blockers
	Depression	Reserpine, methyl dopa, clonidine, propranolol
	Obesity	Reserpine, beta-blockers
	Transient ischaemic attacks, old age, tricyclic antidepressant treatment	Adrenergic neurone blockers
	Angina, tachycardia	Vasodilators (unless a beta-blocker is also given)
	Known allergies or reactions	Whichever drug was responsible
	Condition	Drugs indicated
Are there any positive indications for specific drugs?	Oedema, breathlessness, age over 50	Diuretic
If so, select as appropriate	Angina, tachycardia, ventricular arrhythmias including ectopics, dissecting aneurysm, aortic aneurysm	Beta-blocker
	Poor renal function	Methyldopa vasodilator
	Acute and excessive α -adrenoreceptor stimulation (phaeochromocytoma, MAO-cheese reaction, clonidine withdrawal syndrome)	Labetalol, phentolamine

Is a prolapsed iris a common complication of a cataract operation? What is the treatment?

Iris prolapse used to be a frequent complication of cataract surgery before good ophthalmic suture materials were introduced. Today the corneoscleral wound is closed with direct sutures of 8/0 silk or 10/0 nylon, using at least three and more usually five or even more sutures. With proper closure spontaneous iris prolapse can be considered eliminated, but it does occasionally occur due to an external force on the eye or to raised intraocular pressure. A small iris prolapse may be repositioned under anaesthetic and the wound resutured. A large prolapse is best abscised and the wound resutured.

What advantages has erythromycin over other antibiotics in treating legionnaire's disease? Is it possible to use other antibiotic(s) to make the recommended bacteriological culture medium selective for the causative bacterium?

The recommendation that legionnaire's disease be treated with erythromycin is supported by its efficacy in the experimental infection in guinea pigs. There is some clinical confirmation of this, but it is inconclusive. There has been no subsequent epidemic on the scale of that originally reported in Philadelphia, and proof of therapeutic efficacy is difficult in sporadic cases or only small, disconnected series. "Controlled human chemotherapeutic trials in legionnaire's disease have not been carried out and probably will not be" is the verdict of Lewis *et al*¹ of the Center for Disease Control, Atlanta, Georgia,

pressure control, and also male sex because the prognosis is so much worse for men than for women. Obesity, on the other hand, while also a risk factor in coronary disease, has been entered as a factor contraindicating treatment, and there are various reasons for this: firstly, blood pressure will fall in many people if they can get their weight down; secondly, anti-hypertensive drugs can make it more difficult for people to lose weight; thirdly, the possibility of doing without drugs can be used as a carrot to persuade people to lose weight; and fourthly, for a given level of blood pressure obese people seem to have a relatively good prognosis.

In cases of doubt, however, it is not simply a matter of either treating or dismissing from further care; there is a third course of action—to observe for a period without treatment.

The third step is to start antihypertensive treatment. It is best first to consider contraindications and indications for specific drugs (table III). Thereafter the principles outlined in Table IV should be applied.

TABLE IV—Principles of antihypertensive management

- (1) In most cases, start with a diuretic
- (2) Add other drugs as needed and according to preference
- (3) A diuretic and a beta-blocker form a very useful combination; in younger people a beta-blocker often works well alone
- (4) Initial dosage should be small, and dosage changes should be gradual
- (5) Never start more than one drug at a time unless case is very urgent
- (6) Be alert for interactions, especially when combinations of drugs seem ineffective
- (7) Provide the patient with a drug dosage card and insist on its being carried all the time
- (8) Explain to the patient what you are trying to achieve and discuss side effects frankly
- (9) Make the whole business as efficient, friendly, and pleasant as possible; treatment is going to last a long time

The work of the Dunedin Hypertension Clinic, on which my experience is based, is supported by the Otago Hospital Board and the Medical Research Council of New Zealand. Table II was prepared in response to a request from the National Heart Foundation of New Zealand (PO Box 17128, Green Lane, Auckland 5) and is reproduced, with permission, from *Blood Pressure Screening in New Zealand*, a report by a working group set up by the Foundation.

where most of the American work on this subject has been done. They report an elaborate study of the sensitivity of the bacterium to antibacterial drugs in the chick embryo, of which the most active by several criteria were rifampicin, gentamicin, streptomycin, erythromycin, and sulphadiazine. They question the value of such tests if performed on cultures in artificial media, since there is evidence that these are avirulent mutants, the drug sensitivities of which may differ. An inhibitory selective medium, even supposing that there were an antibiotic suitable for it, would be of value only for the isolation of the bacterium from sputum, and this, in fact, has never been achieved. I am indebted to Dr M J Lewis of the Public Health Laboratory, Nottingham, a centre for the study of the disease in Britain, for the information that primary isolation has been successful at Atlanta only from lung tissue or pleural exudate, and guinea pig inoculation is still preferred as a first step, since it is extremely difficult to get the organism to grow at all; even when adapted to an artificial medium it will grow only from a heavy inoculum.

¹ Lewis, E J, *Antimicrobia, Agents and Chemotherapy*, 1978, 13, 419.

Correction

Digitalis in general practice

In the paper from the Liverpool Therapeutics Group (2 September, p 673) the seventh line of the first paragraph of the Summary should have read: "dose kept unchanged (231; 59.1%) or the dose increased".