



Hypertension: High blood pressure, not nervous tension

The term "hypertension" means high blood pressure to the doctor and to other health professionals. To some patients, however, it may have a different meaning - a high level of nervous tension.

Blood pressure is usually taken at rest, sitting, after a few minutes. If the reading from the manometer device is greater than 135/85 mmHg, it is nowadays regarded as "high" or "borderline". In the past the numbers were 140/90 mmHg. The selection of a lower level has been based on recognition that the lower the blood pressure, the better (provided the patient is not already in the process of dying). Selection of a lower level has, of course, doubled the number of patients with diagnosed or possible "hypertension".

How is blood pressure recorded?

The old style manometer consists of a column of mercury coupled to an air containing pressure bag which was wrapped around the upper arm. The pressure in the bag is pumped up and the top of the mercury column is hence pushed higher. The pressure in the bag is released while one listens for a pulse at the front of the elbow. The moment arises when one hears a pulse beat. This represents the highest level of pressure (systolic) in the artery. As the pressure falls further, the pulse sound disappears. This represents the lowest pressure (diastolic) in the artery.

These days there is a move from using mercury columns to electronic or other devices to record the pressure (mercury is a poison if absorbed). Despite the changes in methods, we still adhere to the old mercury measure because we are used to it (that is, millimetres of mercury = mmHg).

The significance of blood pressure

The pressures recorded in the arm reflect the pressures in the arteries throughout the body. The higher the pressure the greater the stresses in the walls of the arteries and the possibility of damage to the artery's inner lining, leading to the build-up of cholesterol deposits within the artery walls, particularly at sites of arterial division, bending or distortion. Also, the arterial wall becomes thicker and less elastic over the years. Thus we develop arterial disease ("atherosclerosis" with cholesterol deposits in thickened arteries). These deposits are usually most marked in the coronary arteries, which supply blood to the heart muscles. This coronary artery disease underlies the process of coronary artery occlusion, with occurrence of heart attacks (myocardial infarction and sudden death), angina (chest pain arising from the heart) and heart failure (where the heart cannot pump blood adequately to supply the needs of the body). Similar problems may arise through arterial disease affecting the supply of blood to the brain, leading to strokes. Thus the level of our blood pressure throughout life is one of the most important risks for future disability or death.

Treatment of hypertension

Blood pressure can be controlled by many medications. Hence life expectancy and health can be markedly improved by treatment of high blood pressure. Treatment does not necessarily start if you have a blood pressure of 140/90 or so. It may be

that nervousness or stress of the medical examination has raised your blood pressure immediately before the blood pressure measurement (so called "white coat hypertension"). Thus repeated measures are required over time, unless the blood pressure is clearly hypertensive (say greater than 160/100 mmHg on two occasions). Different national and international authorities have different recommendations about which drugs should be introduced first.

Confessional

I've had a high blood pressure and taken medication to control it for over 40 years. High blood pressure runs in families. My father had hypertension recognised at the age of 28 years and died aged 56 years with a stroke (in his day there was almost no treatment). My brothers and my children have high blood pressure.

The groups of drugs available (and all used by me for some time in various combinations) include thiazide diuretics (several), methyldopa, hydralazine, beta blockers (several), calcium blockers (a few), Angiotension converting enzyme inhibitors (a few) and Angiotension receptor antagonists (a few). All have been effective. Some have had adverse effects - a reason for change.

In addition to medication, we all should attempt to be physically active, to maintain a low cholesterol level (preferably by diet rather than by drugs), remain non-smokers, to limit our alcohol consumption, never miss taking a tablet and to see our treating doctor at regular intervals. I have a nice GP who fully understands all of the above, listens to my accounting of possible adverse effects and repeats the prescription or medication which for 40 years has kept my blood pressure well controlled - except when I miss my tablets.

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2006

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