Protocol for Management of Hypertension by Family Practitioners

Pages with reference to book, From 381 To 383

Badar Sabir Ali,Riaz Qureshi,Raheem H. Dhanani (Division of Family Medicine, The Aga Khan University, Karachi.)

Introduction

Hypertension. is associated with an increased risk of developing coronary heart diseases, stroke, congestive heart failure, renal insufficiency and peripheral vasculardiseases. It has been estimated that one out of every three persons over the age of 45 is hypertensive in Pakistan[1]. Estimates of the prevalence of hypertension in various parts of the world is reported to be between 10% and 20% in several adult population, when threshold values are taken as 160 mmHg Systolic Blood Pressure (SBP) and 95 mmHg Diastolic Blood
Pressure (DBP)[2]. It would have been higher if the current threshold value of 140 rnmHg SBP and 90 mmHg DBP were used.

While the trend in hypertension related mortality has been downward in the past several decades[3], it continues to be a major challenge. People with hypertension have three to four times the risk of developing coronary heart disease and as much as seven times the risk of stroke as those with normal blood pressure[4]. Anti-hypertensive treatment has been shown to be particularly effective in reducing the incidence of stroke, a 5 to 6 mmHg reduction indiastolic blood pressure reducing incidence by 40%[5]. Inspite of this success in improving the outcome for persons with established disease, the incidence and the prevalence of blood pressure remains unacceptably. high[6,7]

Non Pharmacological treatment

The life style modification suggested are, stopping smoking, salt restriction, weight reduction, alcohol reduction,. exercise and relaxation, The need for life long compliance is to be emphasized.

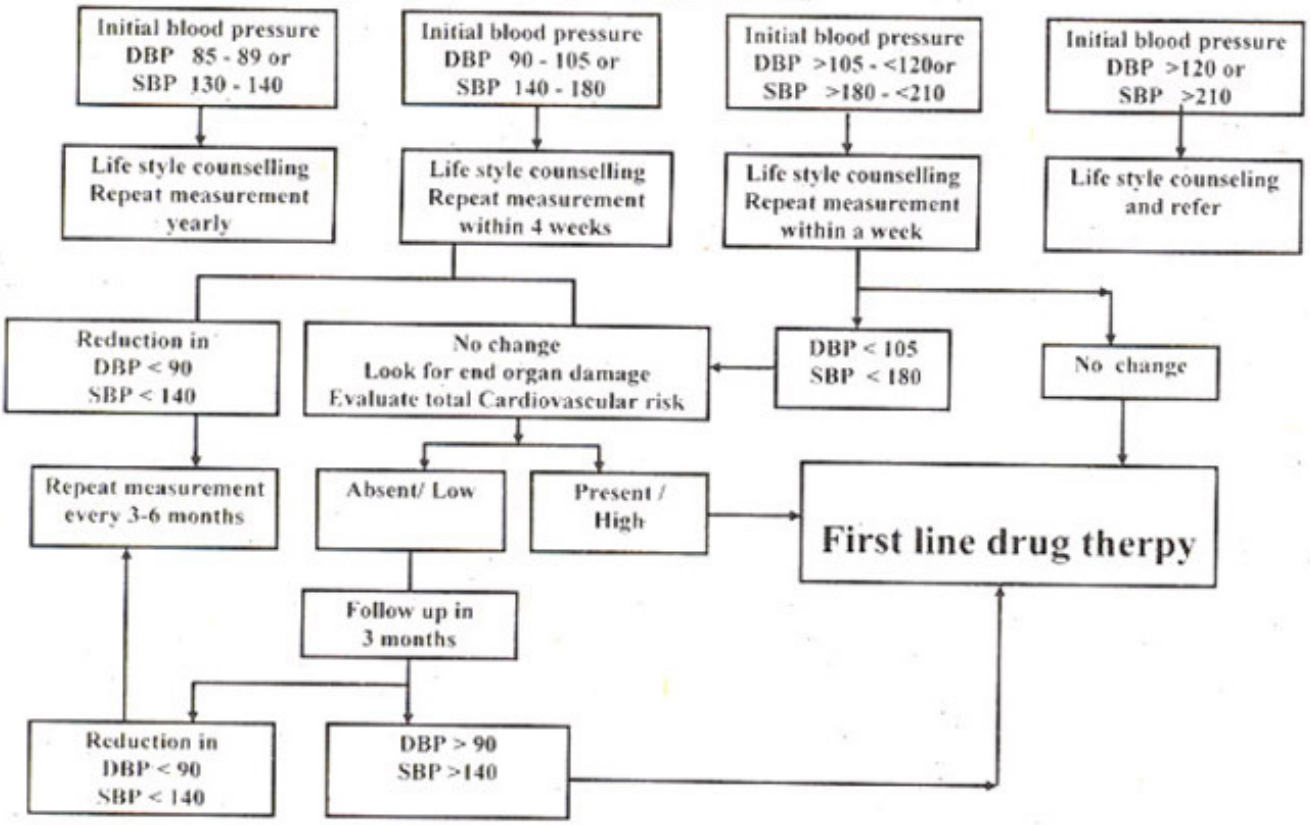
Guidelines for selecting first-line drugs for hypertension [12]

Class of Drug	Indications	Relative Contra Indications	Absolute Contraindications
Diuretics	Heart failure Elderly patients Systolic hypertension African origin	Diabetes Hyperlipidaemia Pregnancy [a] Sexually active males	Gout
β-Blockers	Angina After myocardial infarct Tachyarrhythmias Pregnancy	Hypertriglyceridaemia Insulin-dependent diabetes mellitus Heart failure Athletes and physically active patients African origin	Asthma and chronic obstructive pulmonary disease Peripheral vascular disease Heart block [b]
ACE inhibitors	Heart failure Left ventricular hypertrophy After myocardial infarct Diabetes with micro-albuminuria	African origin	Pregnancy Renal failure Bilateral renal artery stenosis
Calcium antagonists	Angina Peripheral vascular disease Elderly patients Systolic hypertension Glucose intolerance African origin	Congestive heart [c] Atrioventricular heart block [d]	Pregnancy
Central sympatholytics	Pregnancy, Asthma.	Renal failure	Depression, Hepatic Failure
α-Blockers	Prostatic hypertrophy Glucose intolerance	Orthostatic hypotension Pregnancy	

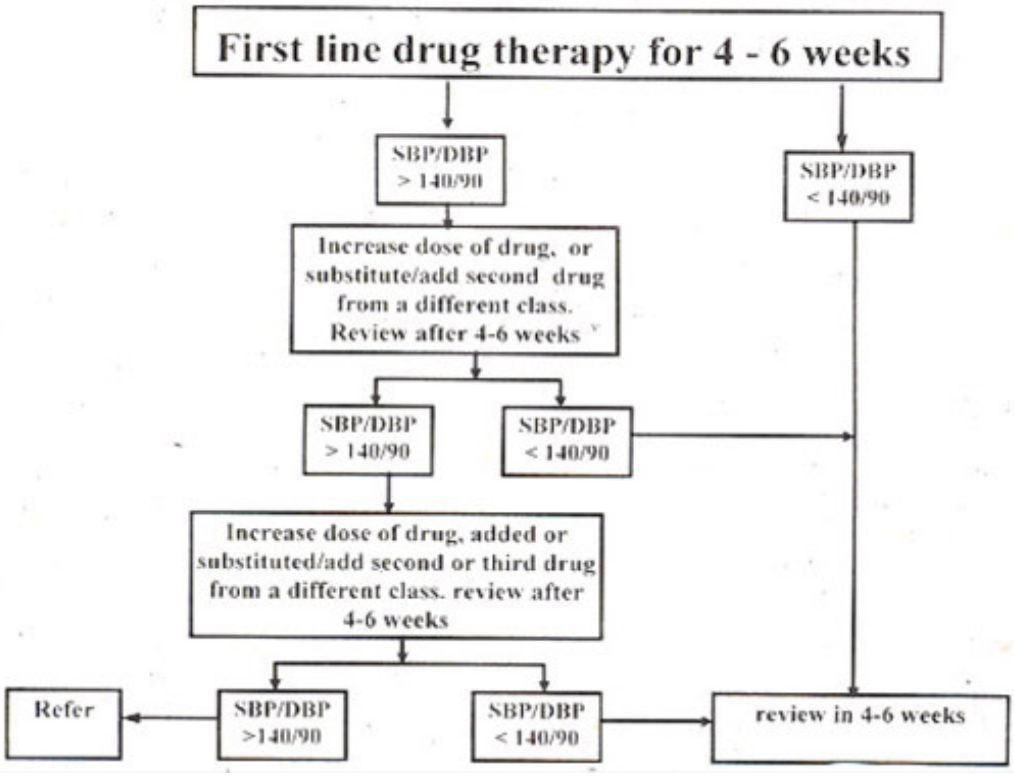
a) Because of reduced plasma volume; b) Grade II and III atrioventricular block; c) Verapamil should be avoided or used only with great caution; d) Varapamil and ditiazem should be avoided or used only with great caution

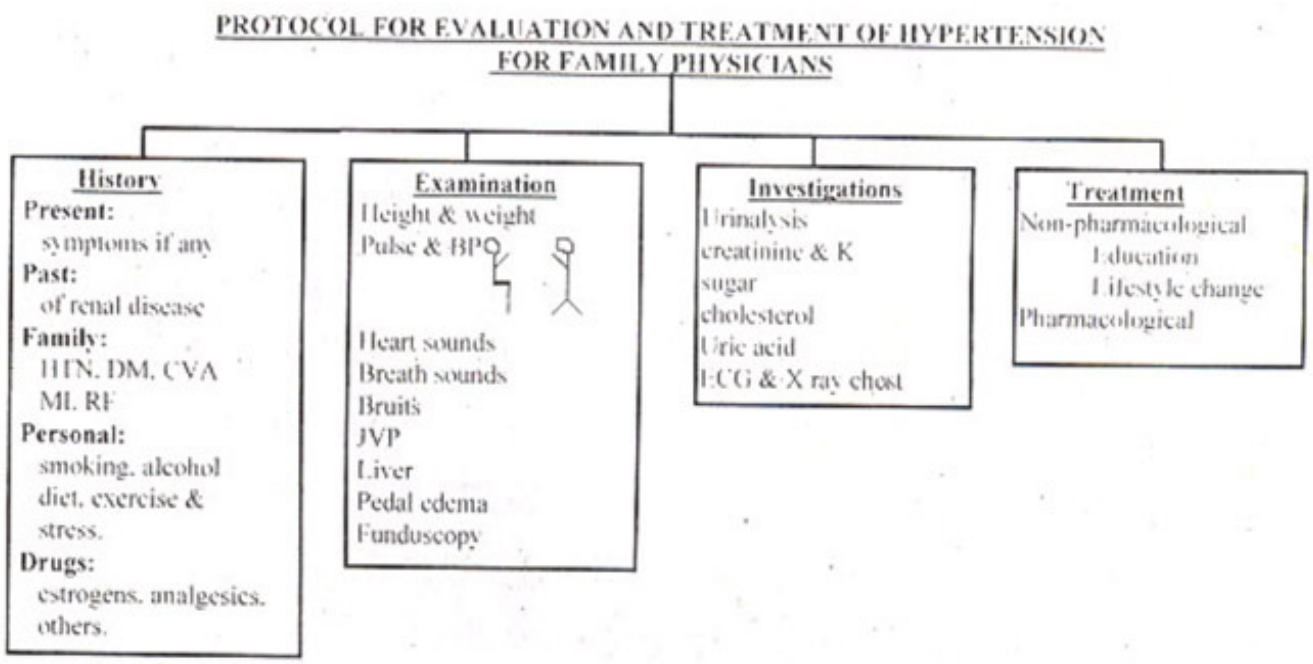
PROTOCOL FOR THE MANAGEMENT AND TREATMENT OF DIFFERENT CATEGORIES OF HYPERTENSION FOR PRIMARY CARE PHYSICIANS

(BP values are in mmHg)



PROTOCOL FOR THE MANAGEMENT AND TREATMENT OF DIFFERENT CATEGORIES OF HYPERTENSION FOR PRIMARY CARE PHYSICIANS





Principals of Pharmacological Treatment

There is a gmat variation among patients in their response to dmgs, the combinations and doses needed and their susceptibility to adverse effects. The correct dose and combination has to be titrated for each patient individually. The objective of treatment is to reduce the blood pressure to below 140/90 mm of mercury, but this is not possible in every patient. For appropriate response, it is necessary that the dose of drugs should not be changed at intervals of less thana week and a second drug should not be added until the maximum safe or tolerable dose of the first has been achieved. Dose of only one drug should be changed at a time. All drugs except diuretics should be started and stopped gradually. One should stop diuretics three days before starting an ACE inhibitor.

Good Drug Combinations

Diuretics + Beta blocker or ACE inhibitor

Beta blocker + Diurectis

Calcium channel blocker* or alphablocker

ACE inhibitor + Calcium channel blocker

*Caution: Do not combine Beta blocker with Verapamil.

Patients should be referred for specialist's advice when hypertension is severe: SBP>2 10 mm of Hg, DBP 120 mm of Hg, if there is renal failure, left ventricular hypertrophy/failure, ischaemic heart disease or multiple cardiovascular risk factors. Secondary hypertension, pregnancy induced hypertension, paediatric hypertension and hypertension in patients under 35 years of age should also be referred. Hypertension uncontrolled after 3 months of therapy with two or more drugs or wide fluctuations in blood pressure also need to be evaluated in a secondary care setting.

Emergency referral is required in event of encephalopathy, new cerebrovascular accident and accelerated or malignant phase of hypertension i.e., papilledema/fundal haemorrhages/diastolic blood pressure >130 mmHg. Myocardial infarction and acute left ventricular failure are other indications for emergency referral.

Treatment should be stopped when the blood pressure is consistently within the target range and there is no target organ damage. Drugs should be gradually tailed off and non-pharmacological management continued indefinitely.

References

1. National Health Survey of Pakistan 1990-94. Health profile of the poeple of Pakistan. PakistanMedical Research Council Islamabad. p. 48.
2. Hypertension contorl report of a WHO Expert Committee. WHO Technical Report Series 862, WHO Geneva, pp. 15,54.
3. Kannel WB, Wolf PA. inferences from secular trend analysis of hypertension control. American Journal of Public Health, 1992,82(12): 1593-95.
4. Dawber TR. The Framingham study; theepidemiology ofatheroscierotic disase. Cambridge, MA: Harvard University Press, 1980;172-89.
5. Collins R. Blood pressure, stroke and coronary heart disease part ll. Short term reduction in blood pressure: Over view of randomized drug trials in their epidemiological context. Lancet, 1990;335:827-38.
6. Whelton PK. Epidemiology of hypertension. Lancet, 1994;344: 101-6.
7. Melby CL, LyleRM, Hyner GC. Beyond blood pressure screening. A rationale for promotmg the primary prevention of hypertension. American Journal of Health Promotion, 198 8;3(2):5-11.