

Interview Of The Month

What Experts Have to Say?

MANAGING A FIRST TIME DETECTED HYPERTENSIVE PATIENT:

10 Questions a GP Must Know

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Dr Thanvi is a practicing Cardiologist in Ahmedabad, India for last 14 years. Postgraduated from BJ Medical College, Ahmedabad, Dr Thanvi has been recently awarded "Glory of Gujarat, 2015" by the Hon. Governor of Gujarat. He is also a Fellow of the American College of Cardiology, European Society of Cardiology and the Society for Cardiac Angiography and Interventions. Backed by an experience of more than 25, 000 procedures, Dr Thanvi is a faculty at various National and International Conferences and also conducts regular CMEs for doctors as well as public awareness programs and camps.

Here, Dr. Shah has been interviewed by **Dr. Soham D Bhaduri**. Dr. Soham is a medical doctor from Rajiv Gandhi Medical College, Thane, Maharashtra. He takes keen interest in writing on Healthcare and Medical Education, and has written for a number of renowned news portals and medical pages.



1 HOW SHOULD ONE INITIATE THERAPY IN A FIRST TIME DETECTED HYPERTENSIVE PATIENT?

Treatment of a first time detected hypertensive patient will depend on the stage of hypertension (HT) at diagnosis.

In all patients, adequate trial of therapeutic lifestyle modification should be given before initiating drug therapy.

First step in the management of all patients with HT should be:

- Lifestyle changes with weight reduction (maintaining BMI 18.5 to 24.9 kg/m²),
- DASH diet (eating fruits, vegetables, and low-fat dairy products with reduced content of saturated and total fat),
- Decrease in dietary sodium (2.4 g sodium or 6 g sodium chloride),
- Increase in physical activity (for 30 minutes per day),
- Moderation in consumption of alcohol.

Offer antihypertensive drug treatment to people aged under 80 years with **Stage I** hypertension who have one or more of the following:

- Target organ damage
- Established cardiovascular (CV) disease
- Renal disease

- Diabetes mellitus
 - 10 yr CV risk >20%
- Offer antihypertensive drug treatment to people of any age with **≥ Stage II** HT.
- For <40 years with **Stage I** HT and no evidence of target organ damage, cardiovascular disease, renal disease or diabetes:
- consider seeking specialist evaluation of secondary causes of hypertension,
 - a more detailed assessment of potential target organ damage.
- 10-year cardiovascular risk assessment can underestimate the lifetime risk of CV events in these people.

2 WHAT LIFESTYLE MODIFICATION ADVICE SHOULD BE GIVEN TO A HT PATIENT AND WHAT ARE THE BENEFITS?

Lifestyle modification for HT patients one given in **Tables 1 and 2**.

3 HOW DOES SALT RESTRICTION HELP IN HYPERTENSION CONTROL?

Salt intake is strongly related to the development of HT, particularly the rise in BP with age.

- Salt sensitivity of BP is defined as an increase in a person's BP due to a sodium load, and most subjects with hypertension exhibit it.

Table 1 – Lifestyle interventions for blood pressure reduction are given below

Intervention	Recommendation	Expected systolic blood pressure reduction (range)
Weight reduction	Maintain ideal body mass index below 23kg/m ²	5-20 mmHg /10 kg weight loss
DASH* eating plan	Consume diet rich in fruits, vegetables, low-fat dairy products with reduced content of saturated and total fat	8-14 mmHg
Dietary sodium restriction	Reduce dietary sodium intake to <6 g salt or <2.4 g sodium	2-8 mmHg
Physical activity	Engage in regular aerobic physical activity, for example, brisk walking for at least 30 min most days	4-9 mmHg
Alcohol moderation	Men <60 ml per day, twice a week; Women <30 ml per day, twice a week. Abstinence is preferred.	2-4 mmHg
Tobacco	Total abstinence	

*DASH = Dietary Approaches to Stop Hypertension

Table 2 – Food items to be avoided in hypertensives

A	B
Table salt	Salt preserved foods
Mono sodium glutamate	Pickles and preserved food
Baking soda	Ketchups and sauces
Sodium bicarbonate	Prepared mixes
Fried foods	Ready to eat food
Alcohol	Highly salted food
	Chips, cheese, butter, papad
	Bakery products
	Biscuits, bread, cakes

- A high salt diet disrupts the natural sodium balance in the body, which causes fluid retention, which in turn increases the pressure exerted by blood against blood vessel walls causing HT.
- In addition to sodium chloride (the accompanying anion in salt) also appears to be important in the pathogenesis of primary hypertension as these findings are not seen if sodium is given with another anion (such as citrate [which is metabolized to bicarbonate]) or chloride with another cation (such as ammonium).
- Reducing salt intake from 170 to 100 meq/day lowers the mean BP in normotensive adults by approx 2/1 mmHg and in hypertensive adults by 5/3 mmHg (equal to that seen with most antihypertensive drugs). However, over the course of 30 years, the fall in BP may be greater, in part because salt restriction minimizes the normal rise in BP associated with aging.
- BP decreases by 3-6 mmHg systolic and 1-3 mmHg diastolic for a decrease of 100 mmol in sodium intake.
- It has been estimated that a reduction in salt intake from 10g a day to 6g will reduce BP and could lead to a 16% reduction in deaths from strokes and a 12%

reduction in deaths from coronary heart disease.

- Banishing table salt is insufficient on its own to achieve a low salt intake, but is one essential step in the right direction.
- The ideal eating habit is to prepare fresh food in your own home. Those able to eat fresh, home-prepared food regularly should be able to achieve a diet properly-restricted in salt.
- Fast foods contain huge amount of salt already added to the food prior to serving. Therefore, regular consumption of fast foods is invariably associated with excessive salt intake.

Salt sensitivity of BP is related to obesity, which is also increasing in prevalence. Lower BP reduces cardiovascular morbidity and mortality; hence, the public health advice to restrict sodium intake and avoid weight gain can be applied to society as a whole.

4 HOW DOES OF WEIGHT REDUCTION HELP IN CONTROL OF HYPERTENSION?

Evidence suggests that obesity coupled with lack of exercise is an important factor involved in the development of HT. Indicators for risk of HT include obesity, abdominal obesity and weight gain.

- Obesity is measured by body mass index (BMI), which is determined by weight and height. BMI is highly correlated with direct measures of body fat in most populations.
- Abdominal obesity has the greatest influence on whether someone will develop hypertension.
- Weight gain is associated with increased risk of developing HT.
- Women that gained more than 55 pounds (~25 kgs) were three times as likely to become hypertensive as women who had gained less weight.
- Weight-loss can lead to a significant drop in BP.
- One study showed that in a 4-year follow-up of 181 overweight hypertensive patients, a 10% weight-loss

produced an average of a 4.3/3.8 mmHg fall in BP.

- A meta-analysis of 25 RCTs showed reductions in SBP and DBP of ≈ 1 mmHg for each kg of weight loss.
- In particular, subjects on antihypertensive drug treatment might benefit from weight reduction. With weight-loss, a significant fall in BP may permit a decrease in the number of medications taken or decrease the amount of medication taken.
- Weight-loss is the most important step in reducing HT and improving quality of life.

5 WHAT SHOULD BE THE FIRST ANTIHYPERTENSIVE OF CHOICE BY A GENERAL PRACTITIONER ?

Step 1 treatment

- **Pateints <55 years:** ACE inhibitor or Angiotensin-II Receptor Blocker (ARB). (Please note: **Never combine an ACE inhibitor with an ARB to treat HT**). Beta-blockers are preferred in young with high sympathetic drive, symptomatic mitral value prolapse (MVP) or presence of ischemic heart disease (IHD).
- **Pateints >55 years and to people of African or Caribbean family origin of any age:** Calcium channel blockers (CCBs) are the drug of 1st choice. If CCB is not suitable because of oedema or intolerance or if there is evidence of heart failure (HF) or a high risk of HF, offer a thiazide-like diuretic such as:
 - o Chlorthalidone (12.5-25 mg once daily) or
 - o Indapamide (1.5 mg modified-release once daily or 2.5 mg once daily)in preference to a conventional thiazide diuretic such as bendroflumethiazide or hydrochlorothiazide.

Step 2 treatment:

If BP is not controlled by step 1 treatment:

- Offer CCB in combination with ACE inhibitor / ARB
- If a CCB is not suitable, offer a thiazide-like diuretic
- For African or Caribbean family origin:
 - o Consider an ARB in preference to an ACE inhibitor, in combination with a CCB

Step 3 treatment:

- Before considering step 3 treatment
 - o review medication to ensure step 2 treatment is at optimal or best tolerated doses
- Combination of three drugs:
 - o ACE inhibitor or angiotensin II receptor blocker
 - o + Calcium-channel blocker
 - o + Thiazide-like diuretic should be used

Step 4 treatment:

- If BP remains $>140/90$ mmHg after treatment with the optimal or best tolerated doses of an ACE inhibitor / ARB + CCB + diuretic, treat as resistant HT and consider adding a fourth antihypertensive drug (α -

blocker or β -blocker) and seek expert advice.

6 HOW FREQUENTLY SHOULD A GENERAL PRACTITIONER FOLLOW UP A PATIENT OF HYPERTENSION?

- For patients with **Stage I hypertension** and who are otherwise healthy: once every month until patient reaches the BP goal. After the BP goal is reached, follow up every 3-6 months, depending on the presence of other comorbidities.
- For patients with **Stage II hypertension or other comorbidities:** Every 2-4 weeks.

At these visits, **measure BP, ask about side effects, and discuss the progress** patient is making with lifestyle measures like diet, exercise and smoking cessation.

Blood levels of sodium, potassium and creatinine should be measured **at least once or twice a year** to detect any adverse effects from blood pressure medications and any deterioration in kidney function.

7 WE SEE A GENERAL RELUCTANCE AMONG PATIENTS IN ADOPTING NON- PHARMACOLOGICAL MEANS, LIKE A HEALTHY LIFESTYLE. WHAT ROLE CAN A GP PLAY IN STIMULATING PATIENTS TO TAKE UP SUCH MEANS?

- Recommendations for physicians helping patients to change range from the "just do it" approach to extended clinic visits, often incorporating behaviour modification, record-keeping suggestions and follow-up telephone calls.
- Repeatedly educating the patient though not always successful is very important. Promising patients an improved outcome may not guarantee their motivation for long-term change but should be emphasised.
- Relapse during any treatment program is sometimes viewed as a failure by the patient and the physician, which may cause patients to even give up and avoid contact with their physician or avoid treatment altogether.
- But both the patient and physician should understand that relapses are almost inevitable and become part of the process of working toward lifelong change

8 WHAT COMPLICATIONS A GP SHOULD KEEP IN MIND, WHICH MAY RESULT DUE TO UNCONTROLLED HYPERTENSION, WHILE TREATING AN HYPERTENSIVE PATIENT?

High blood pressure especially if poorly controlled can lead to various vascular complications including cardiac, cerebral, renal and peripheral; majority of them being:

- Stroke

- Myocardial infarction
- Heart failure
- Aneurysms and intracranial bleeds
- Vascular dementia
- Dissection of aorta rarely
- Mild to moderate chronic renal disease
- Metabolic syndrome
- Retinopathy
- Acceleration or worsening of complications associated with comorbidities such as diabetes, CKD etc

9 WHEN DO YOU THINK A GP SHOULD TAKE A DECISION TO REFER THE PATIENT TO A SPECIALIST IF HE/SHE IS UNABLE TO CONTROL HYPERTENSION DESPITE ALL THE EFFORTS WITH THE MEDICATIONS AT HIS/HER COMMAND?

With proper diagnosis of the type and stage of HT and aggressive nonpharmacological as well as judicious pharmacological therapy, most often the hypertension will remain under good control. However, certain scenarios may warrant a specialist consultation especially:

- If BP remains uncontrolled with optimal or maximal tolerated doses of four drugs (resistant hypertension)
- Secondary cause of HT
- Labile hypertension
- Confounders as: white coat effect or masked hypertension
- Presence of target organ damage
- Presence or development of complications
- Co-morbidities requiring multispeciality care
- Accelerated hypertension
- Hypertensive urgencies or emergencies

10 WHAT ADVICE WOULD YOU GIVE TO GPs TO FOLLOW AS REGARDS HYPERTENSION MANAGEMENT IS CONCERNED IN THEIR LIMITED SET UP?

An important role of family physicians is to assist patients in understanding their health and to help them make the changes necessary for health improvement.

Exercise programs, stress management techniques and dietary restrictions are some common interventions that should be emphasized at every visit.

A change in patient's lifestyle is necessary for successful management.

Regular education of patient and family and constant follow up ensures proper therapy and achievement of goals. ■