Managing Challenging Cases in Hypertension

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Hypertension affects nearly half of North Americans > 50-years-old. We now know it requires not only management of the BP itself but involves lifestyle changes that can be very challenging for both patients and physicians to optimize.

How would you proceed with Lillian?

According to the 2008 CHEP recommendations,[1] Lillian's BP is considered severe (> 180 mmHg systolic and/or > 110 mmHg diastolic). Consider initiating therapy with a combination of first-line drugs if systolic BP is 20 mmHg or diastolic BP is 10 mmHg above target (Figure 1). Usually combine a thiazide-type diuretic and ACE inhibitor, ARB, calcium channel blocker, or β-blocker. Combining an ACE and an ARB is not usually recommended. Use caution in patients where a substantial fall in BP is more likely or more poorly tolerated (*e.g.*, the elderly) from initial combination therapy.

Bakris[2] summarized the results from seven recent landmark studies on the number of antihypertensive agents required to reach target values. Most patients require three or more medications in order to reach their target BP.

Lillian's case

Lillian, 62-years-old, is a waitress in a busy diner. She comes to your office because her BP was elevated when she measured it at the local drugstore. She tells you it was 180/105 mmHg. She is a smoker and drinks alcohol in moderation. She lives alone and eats most of her meals at work. She has no time for regular exercise. She is "run off her feet" at work and frequently works 12 hour shifts.

BP in-office was 194/104 mmHg. Her BMI is 28.9 kg/m^2. Her waist circumference is 98 cm. Her fundi are abnormal showing arterial narrowing (silver wire appearance). The remainder of her physical examination is normal. EKG and blood work are all surprisingly normal.

Read on for more on Lillian's case.

Diet

It has been demonstrated that following the Dietary Approaches to Stop Hypertension (DASH) diet,[3] a diet that emphasizes fruits, vegetables and low-fat dairy products and includes whole grains, poultry, fish and nuts, while containing only small amounts of red meat, sweets and sugar-containing beverages. It also contains decreased amounts of total and saturated fat and cholesterol which lowers BP substantially both in people with hypertension

Table 1

Lifestyle recommendations for prevention and treatment of hypertension

To reduce the possibility of becoming hypertensive:

- Reduce sodium intake to < 2,300 mg/day
- Healthy diet:
  High in fresh fruits, vegetables, low fat dairy products, dietary and soluble fibre, whole grains and protein from plant sources, low in saturated fat, cholesterol and sodium in accordance with Canada's Guide to Healthy Eating
- Regular physical activity:
  - Accumulation of 30-60 minutes of moderate intensity cardiorespiratory activity (*e.g.*, a brisk walk)
  - 4-7 days per week in addition to routine activities of daily living
- Low risk alcohol consumption:
  ≤ 2 standard drinks/day and < 14/week for men and < 9/week for women
- Maintenance of ideal body weight:
  BMI 18.5-24.9 kg/m^2
- Waist circumference:
  - Europid, Sub-Saharan African, Middle Eastern: < 94 cm for men, < 80 cm for women
  - South Asian, Chinese: < 90 cm for men, < 80 cm for women
- Smoke-free environment

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and those without hypertension, as compared with a typical North American diet. The DASH diet is now recommended in national guidelines.

Lifestyle modifications

Exercise, moderate alcohol intake, reduced salt intake, weight loss and smoking cessation are probably the most challenging changes for patients to make in their lives. They are safe and inexpensive and can lower BP in hypertensive patients (Table 1). When combined with drug therapy, they usually result in better BP control and improved quality of life.[4] Many of the individual factors, if successfully adopted, may lead to BP changes in the magnitude of that associated with single-drug therapy. Although each factor typically has a modest effect, the combined effects may be substantial. It is worthwhile to

Take-home message

- Encourage people with hypertension to use approved devices and proper technique to measure BP at home
- Average home daytime BP values ≥ 135/85 mmHg should be considered elevated
- Systolic BP ≥ 180 and/or diastolic BP ≥ 110 mmHg is considered severe
- Consider initial combination antihypertensive therapy in patients with severe hypertension. Many require use of three or more antihypertensive drugs including diuretics to achieve BP targets
- Advise patients on lifestyle modification strategies for BP control
- Treat BP to < 140/90 mmHg in most people and to < 130/80 mmHg in people with diabetes or chronic kidney disease

Frequently Asked Questions

What's the best way to measure BP in the office?

The patient's back should be resting against the chair, testing arm must be resting and legs should be uncrossed. Ideally caffeine (and other products known to raise BP) should be avoided 2 hours prior to a reading.

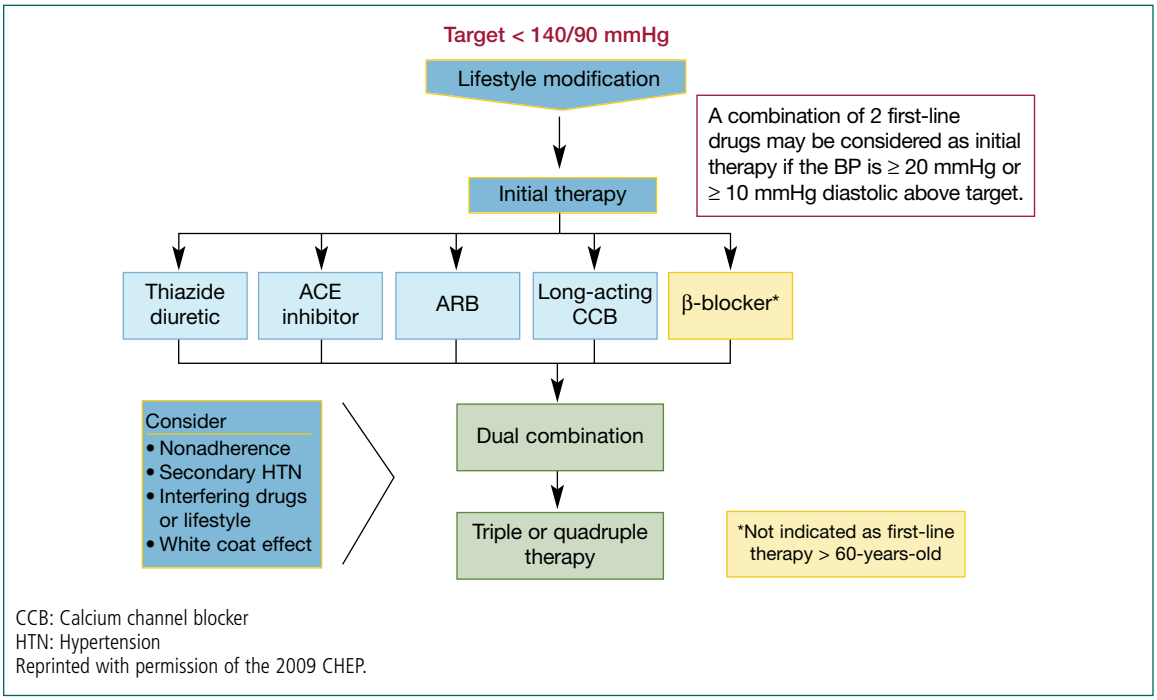
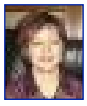


Figure 1. Summary: Treatment of systolic-diastolic hypertension without other compelling indications.

remind patients to read labels for sodium and fat content.

Lillian's plan

You start her on a combination antihypertensive. As part of the prescription she is able to get a free BP home monitor. You advise her to stop smoking and give her information for a local self-help program. You send her to a dietician and ask her to start an exercise program of her choice and to see her the following month.



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She has not been able to quit smoking nor exercise. She did not go to the dietician as she was too busy but she did get the meds and her BP is now 140/90 mmHg. Dx

References
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4. Padwal R, Campbell N, Touyz RM, et al: Applying The 2005 Canadian Hypertension Education Program Recommendations: 3. Lifestyle Modifications To Prevent And Treat Hypertension. CMAJ 2005; 173(7):749-51.