Hypertension treatment: a case study

Bill is a 48-year-old self-employed plumber who sees you occasionally for a recurrent cough and upper respiratory tract infections. He:

- has no significant past medical history
- is taking no medicines
- has no known allergies
- is a regular smoker and has been since his teens
- drinks a couple of stubbies a night and “a bit more on the weekend”.

You have recently introduced a policy in your practice of the practice nurse doing a set of observations on a patient before the patient is called in to see the doctor.

Bill has come to see you for another “cold that has gone to my chest”. You note the nurse’s observations are:

- temperature 37°C
- Pulse rate 78, regular
- blood pressure (BP) 148/94 mmHg
- repeat BP 144/92 mmHg.

Does Bill have hypertension?

Bill may have hypertension, because his BP measurements are in the abnormal hypertension range. However, the diagnosis of hypertension should be based on multiple BP measurements taken on separate occasions.

Does Bill need BP-lowering medicine?

Before deciding whether or not to prescribe BP-lowering medicine, you need to confirm that Bill has hypertension. To do this, Bill's BP should be measured on a subsequent visit, preferably by the practice nurse to minimise the ‘white coat’ effect.

If hypertension is confirmed from multiple BP measurements, Bill’s medical history should be recorded and he should be examined for, and investigations done to see if he has, cardiovascular disease (CVD) or target organ damage.

In the absence of CVD or target organ damage, you should formally calculate Bill's absolute risk score.

Regardless of whether Bill's absolute risk is low, medium or high, you should recommend behavioural modification as the basis of his hypertension management (e.g. reduced alcohol intake) and to reduce his risk of CVD (smoking cessation). However, if Bill's BP is still > 140/90 mmHg, refer to the hypertension management algorithm (Figure 1 of Hypertension treatment poster).
What should be the first choice hypertension drug treatment for Bill?

Assuming Bill's five-year absolute risk score is 15% or more on the Australian absolute risk calculator, he should be prescribed medicine to reduce hypertension.

Choice of first line medicine is driven by relative and absolute indications or contraindications, according to co-morbidity.

In Bill's case, you may consider the possibility that he has chronic obstructive pulmonary disease (COPD) and avoid prescribing a beta-blocker. An appropriate medicine is a low-dose ACE-inhibitor, Angiotensin II receptor blocker (ARB) or calcium channel blocker (CCB).

What BP should I aim to get Bill to?

Diagnostic and therapeutic BP goals vary according to a patient's risk status. This is because the greater the risk, the greater the benefit of lowering BP and the greater the residual risk if goals are not met.

According to Heart Foundation guidelines, Bill's target is < 140/90 mmHg or lower if tolerated. If he had evident CVD, diabetes and/or significant renal disease, his target would be lower.

Want to know more?

For more information on how to manage hypertension, please see:
- Guide to management of hypertension 2008 (Updated August 2009)
- Hypertension treatment wall chart
- hypertension management slideshow.

For general information about hypertension and heart health, contact our Health Information Service on 1300 36 27 87 (for the cost of a local call) or email health@heartfoundation.org.au. You can also visit our website at www.heartfoundation.org.au.

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