

HYPERTENSION IN SINGAPORE

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Hypertension affects a quarter of Singaporeans aged 30 to 69 years and is the commonest chronic disease that is managed in primary care. What is stunning was a local study which showed that 38.5% of hypertensive patients were previously undiagnosed. Age, male gender, obesity, smoking and diabetes are known risk factors for hypertension. It is more prevalent amongst Chinese men and Malay women. Salt ingestion is associated with hypertension. A survey revealed that 90% of Singaporeans exceeded the recommended daily salt intake.

Clinical blood pressure (BP) measurement is the most common method used for detection and monitoring of hypertension. However BP varies according to circadian rhythm and affected by the white-coat effect. Hypertensive patients with abnormal BP variability have increased risk of end organ damage and poorer outcome. Home BP monitoring (HBPM) and Ambulatory BP Monitoring (ABPM) eliminates the white-coat effect but requires patient involvement and added costs. Both HBPM and ABPM can better predict end organ damage and cardiovascular risk than clinic BP. Using validated HBPM devices, home BP can be measured at trough level of treatment to check on the therapeutic coverage throughout the dose-to-dose time interval. Patients are likely to achieve treatment target rapidly and the readings will reflect the effectiveness of their prescribed medications. ABPM is more costly and needs to be performed by cardiac technicians, which will restrict its use in the community.

Beyond the diagnosis, it is critical for hypertensive patients to have their BP treated to target levels. For hypertensive patients without diabetes mellitus and cardiovascular complications, they should aim to control their BP to be below 140/90 mm Hg, regardless of their age. Those with diabetes and other vascular diseases should target below 130/80 mm Hg. Every increase of 20 mm Hg in systolic BP and 10 mm Hg in diastolic BP result in doubling of mortality from ischemic heart disease or stroke and this relationship is similar across all age groups between 40 to 89 years old.

Patients should thus be informed that their risks of complications rise significantly if they fail to meet their BP control target. However, studies have shown that only slightly more than a third of them achieve such good control and many succumb to complications such as cerebrovascular diseases (CVD) and peripheral vascular diseases (PVD).

The battle to combat hypertension is multi-pronged. Effective antihypertensive drug therapy should lower BP to below target level whilst maintaining normal 24-hour BP variability. Recent clinical trials have shown that combination therapy provides better 24-hour BP control. Such therapy has the combined efficacy of each component at lower dosages and thus with lesser side-effects and single pill combination improves patient adherence. Recent development includes renal sympathetic denervation therapy. It is a procedure with potential in controlling BP amongst patients who are already on multiple BP lowering drugs.

In the event that patients present with early symptoms of stroke, most will present to their primary care physicians (PCP). It is critical for PCP to recognize these early presentations of CVA so that patients are managed with appropriate emergency care in specialized Stroke Units in major hospitals in Singapore. Tools such as FAST and ABCD2 have been developed to assist PCP in early recognition of CVA and decision support to determine urgency of referral respectively.

PCP must not forget to screen periodically for PVD amongst their hypertensive patients. PVD is largely asymptomatic; amongst the minority with symptoms, presentation may be atypical. Apart from a good history, the Edinburgh Claudication Questionnaire can be used as a screening tool. Examination includes feeling for the peripheral pulses, recognition of signs of arterial insufficiency and measurement of ankle-brachial index (ABI). PVD is a signature for systemic atherosclerosis. PCP should proceed with other assessment of cardiovascular risks once PVD is diagnosed. Management of PVD includes aggressive risk factor modification (smoking cessation, treating diabetes, BP and LDL-cholesterol to control targets), a regular exercise program, anti-platelet therapy and referral for revascularization based on guidelines.

Patients are also educated to embark on self management of their BP control, such as home BP monitoring and to undertake regular cardiovascular exercises and selection of healthier food options.

PCP plays pivotal role in engaging these patients and motivating them to change their behavior to take on these recommended activities. PCP can make use of the Transtheoretical Model and Motivational Interviewing techniques to facilitate this change. Recognizing the heterogeneity of patients in terms of their stages of change will prompt the PCP to use different strategies to facilitate change. The use of guiding style, focusing on collaboration and respect for patient's autonomy, allows the PCP to explore and facilitate

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patient's personal motivation to change. Such approaches will form a framework and methods for the PCP to modify their patient's behavior towards mutually agreed specific and achievable treatment targets.

Achieving treatment targets and permanent adoption of these healthy lifestyles are proven ways to reduce the plethora of hypertension related complications. This issue provides a good coverage of these strategies to enable the PCP to decrease the cardiovascular risks for their patients.