



CPG on Screening for Cardiovascular Disease & Risk Factors

23 April 2011



Programme

1.30 pm – Registration

2.00 pm – Cardiovascular screening

Prof Goh Lee Gan

2.20 pm – Global Risk Assessment

Dr Low Lip Ping

2.40 pm – Additional Tests for Modification of
cardiovascular Risk

Prof Terrance Chua

3.00 pm – Biochemical markers

A/Prof Sunil Kumar Sethi

3.30 pm – Tea Break

4.00 pm – Cardiovascular Screening in
Diabetes Mellitus Patients

A/Prof Sum Chee Fang

4.15 pm – Cardiovascular screening in Renal Patients

Dr Tan Han Khim

4.30 pm – Beyond Screening – Taking Action

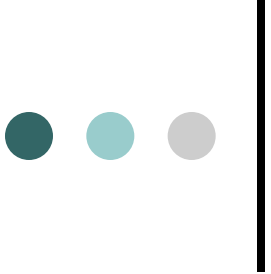
Dr Kwong Kum Hoong

5.00 pm – Questions & Answers. End



Outline: Cardiovascular Screening

- Screening – the ends in mind
- Challenges to screening
- Major risk factors
- CV screening approach
- Beyond screening
- Take home messages



Screening – the ends in mind

- Identify risk factors
- Identify asymptomatic disease – the deadly quartet
- Take action – timely and before irreversible damage occurs



Challenges to screening – When is it not useful?

- All our current tests for coronary artery disease detection involve a trade-off between accuracy, cost, radiation, and invasiveness
- There is a common misconception that early detection of coronary artery disease is potentially lifesaving, because “prophylactic” angioplasty and stenting or bypass will prevent a subsequent heart attack
- There is little evidence to encourage routine screening for coronary artery disease in asymptomatic individuals



Challenges to screening – When is it not useful? (2)

- Single high risk factors are important in preventing cardiovascular disease, but the combined effect of many moderately high risk factors may be just as destructive as a single risk factor.
- The global risk approach is therefore the first step in cardiovascular risk assessment and so:
- In asymptomatic individuals it is recommended that the risk of cardiovascular disease first be estimated based on a global assessment of risk factors (Grade C, Level 2+)

FIGURE 1 -- MAJOR RISK FACTORS FOR CARDIOVASCULAR DISEASE

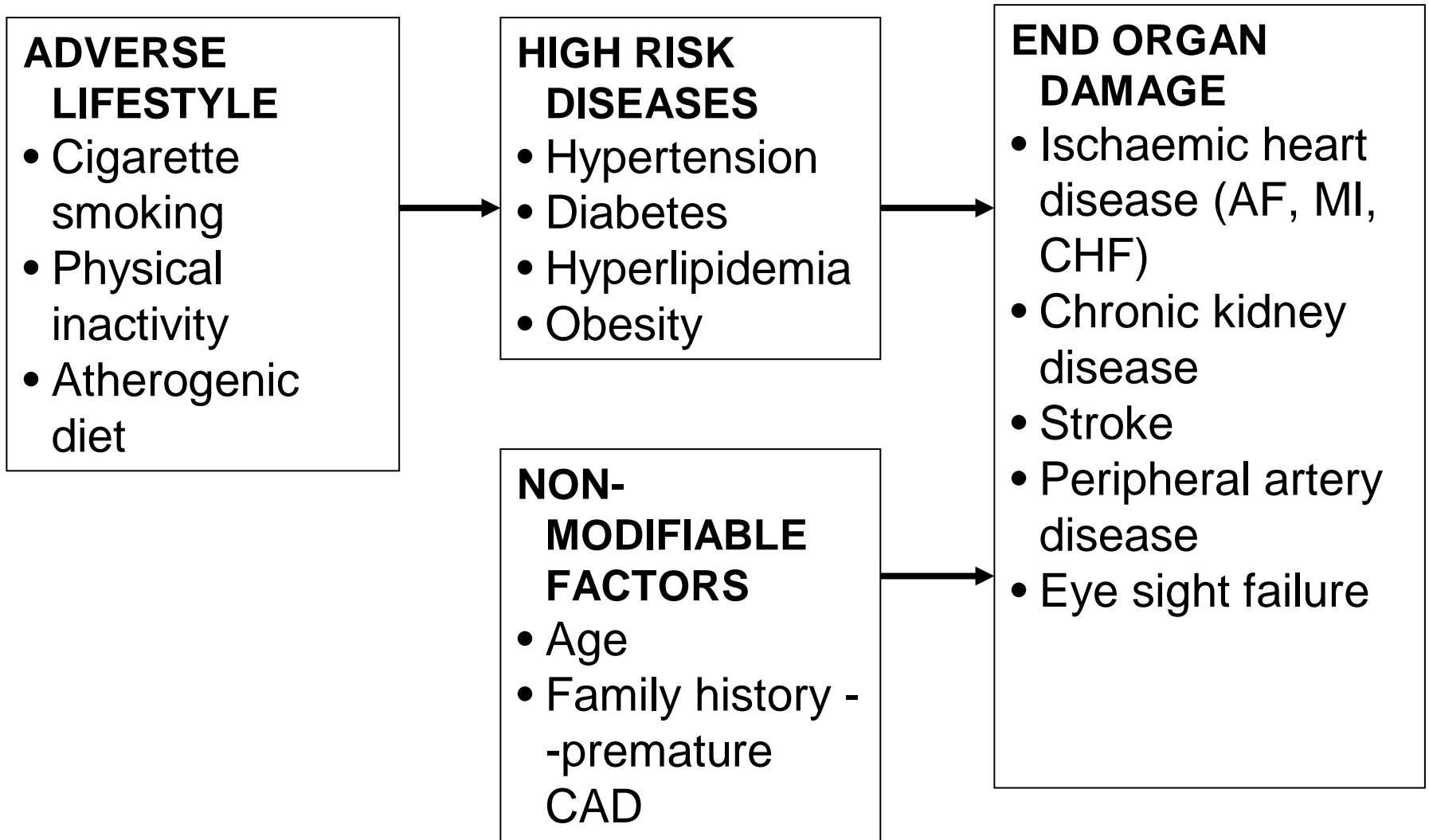


Table 1. Factors that influence the risk of acute myocardial infarction.

Risk factor	Odd's ratio OR (95%CI)
Harmful (increase risk)	
Dyslipidemia (highest vs lowest decile)	3.25(2.81-3.76)
Smoking (current vs never)	2.87(2.58-3.19)
Diabetes	2.37(2.07-2.71)
Hypertension	1.91(1.74-2.10)
Abdominal obesity (highest vs lowest tertiles)	1.62(1.45-1.80)
Protective (decrease risk)	
Daily fruit and vegetable consumption	0.70 (0.62-0.70)
Regular physical exercise	0.86(0.76-0.97)

Source: Yusuf et al, 2004, the INTERHEART study.⁸



CV screening approach – 6 things

1. Adverse life style factors – identify and reduce
2. Global risk assessment – Framingham risk score adapted for Singapore
3. Additional tests -- When and what?
4. Asymptomatic cardiovascular disease in diabetes mellitus, and chronic renal disease
5. Screening for abdominal aortic aneurysm, peripheral arterial disease, cerebrovascular disease, atrial fibrillation
6. Pre-participation screening for exercise



Beyond screening

- It is not enough just to screen for cardiovascular risk factors, or asymptomatic disease
- Need for motivational interview, action, and follow-up



Take home messages

- Screening – the ends in mind – identify risk factors, identify asymptomatic disease; take action
- Major risk factors – lifestyle, high risk diseases i.e. the deadly quartet
- Approach – lifestyle factors, global risk assessment, further testing; diabetic & chronic renal disease patient, abdominal aneurysm, PAD, cerebrovascular disease, atrial fibrillation, pre-participation testing
- Beyond screening – motivational interview, action, follow-up