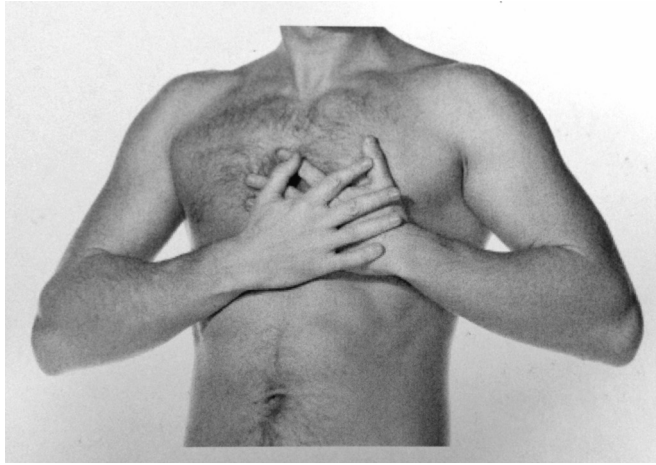


第1章

心血管内 / 外科

Cardiovasology and Cardiovascular Surgery



Introduction

Cardiovascular disease refers to any disease that affects the cardiovascular system, principally cardiac disease, vascular diseases of the brain and heart, and peripheral arterial disease. The causes of cardiovascular disease are diverse but atherosclerosis and hypertension are the most common. In addition, with aging come a number of physiological and morphological changes that alter cardiovascular function and lead to increased risk of cardiovascular disease, even in healthy asymptomatic individuals.

Cardiovascular disease is the leading cause of deaths worldwide, though, since the 1970s, cardiovascular mortality rates have declined in many high-income countries. At the same time, cardiovascular deaths and disease have increased at

a fast rate in low-and middle-income countries. Although cardiovascular disease usually affects older adults, the antecedents of cardiovascular disease, notably atherosclerosis, begin in early life, making primary prevention efforts necessary from childhood. There is therefore increased emphasis on preventing atherosclerosis by modifying risk factors, for example by healthy eating, exercise, and avoidance of smoking tobacco.

This chapter mainly focuses on cardiac disease, hypertension, hypertension and kidney disease and care for patients of cardiovascular diseases.

心血管疾病是影响心血管系统的疾病，主要指脑血管、心脏血管和周围动脉的疾病。它的发病原因繁多，其中动脉粥样硬化和高血压是罪魁祸首。另外，年龄的增长带来一系列生理和形态上的变化，使得心血管功能发生改变，增加了患病的风险，即使身体健康、无相关症状的人群也存在风险。

心血管疾病是世界上导致死亡的主要原因。自20世纪70年代以来，在许多高收入国家，因心血管疾病导致死亡的比例已经下降；但在中低收入国家，心血管疾病患病人数以及由此导致的死亡人数仍以较快的速度增长。老年人通常易患心血管疾病，但是一些前驱症状，特别是动脉粥样硬化，早年就会出现，对该疾病的预防要从儿童开始。通过降低患病风险，如健康饮食、适度运动、禁止吸烟等，可以加强预防动脉粥样硬化。

本章训练的重点是心脏病、高血压、高血压与肾病以及心血管病人的护理。



Part I Note-taking

Directions: Take notes while listening to the following passages. The relevant skills are employed to help you improve the ability of taking notes and decrease the pause of thinking.

Passage One

心脏骤停

王先生，男性，50岁，因突发PEA（无脉搏性电活动）的心脏骤停^①，于2014年7月26日下午5点43分收治入院。

病人两周前冲浪时踝部骨折。根据病人家属讲述，入院当日，病人起床后感到胸痛和呼吸困难，随即跌倒，不省人事，伴随四肢抽搐、呼吸困难。急救人员实施了气管插管，并持续给予心肺复苏^②以维持心率。

病人发病前身体状况良好，1周前曾被医院诊断为“静脉曲张”，下肢超声检查未发现异常情况。病人无药物过敏史，无吸烟、酗酒等不良嗜好，有静脉炎家族病史，无其他家族性疾病，育有2子1女，身体均健康。

病人心脏骤停后及时实施了心肺复苏术，迅速建立人工有效循环，保障病人基本生命支持，包括畅通气道、人工呼吸和人工胸外按压。

NOTES:

- ① **心脏骤停 (cardiac arrest)**: 也称为心肺骤停或循环骤停，是指心脏无法正常收缩而导致射血功能的突然终止，医生将这种突然的心跳停止称为心脏骤停 (SCA, sudden cardiac arrest)。
- ② **心肺复苏 (CPR, cardiopulmonary resuscitation)**: 这是一种急救程序，当病人发生心脏骤停时，立即施以心脏复苏术可防止对大脑造成不可逆的损害，恢复自主的血液循环和呼吸功能。心肺复苏本身并不能“重启”心脏的正常功能，它的主要作用是向大脑和心脏回流部分供应含氧血，以此延缓组织的死亡，为病人复苏带来一线希望，避免造成永久性的脑损伤。

Passage Two

Vascular Heart Disease

One of the major causes of death in Australia today is vascular heart disease.

Cardiovascular disease is a disease which affects the heart and blood vessels

and can lead to heart attacks. It is still Australia's greatest health problem. It claims more lives than any other disease and its health and economic burden exceeds that of any other diseases.

Much of the death and disability caused by cardiovascular disease is preventable. Many Australians remain at higher risk of the disease through smoking, with little improvement in exercise participation in recent years, and the proportion of overweight and obese Australians is increasing.

Smokers are one of the high-risk groups of cardiovascular disease because smoking is known to have harmful effects on arteries, both in the heart and in the general circulation.

Over the last three decades there has been an almost 66 percent fall in cardiovascular death rates. This is mainly the result of early medical interventions and improvements in some risk factors such as blood pressure, smoking and diet.

Part II Dialogue Interpreting

Directions: *Interpret the following dialogue alternatively into English or Chinese.*

At the Cardiologist

Mrs. Yang, a woman from the suburb, goes to see the cardiologist about her heart condition.

Doctor: Hello, Mrs. Yang, how have you been?

Mrs. Yang: 我觉得不太舒服, 两个月前我去找了我的家庭医生, 她也不知道是什么原因, 所以又介绍我去找一名营养师。

Doctor: Which dietician did you see? Was it Mrs. Tan or the new one?

Mrs. Yang: 不是谭太太, 是一个新的营养师。她叫我注意饮食, 说体重减轻不要紧, 还说胆固醇[®]测定值6.5并不算太高, 不会造成问题的。

Doctor: Well, obviously she doesn't know what she is talking about. When a person loses weight dramatically, as it has been in your case, it can be for two reasons: first, because he / she is not eating as much as they used to, and second, because there is a malignancy in the body.



That is why before taking action, we send our patients to a dietician. With regards to your cholesterol level, the internationally agreed normal level of cholesterol, regardless of age, is 5.2. Your level is 6.5. In your case, it is quite alarming because you've had a heart attack and have blocked arteries. A high cholesterol level will help block the arteries even more. The dietician was supposed to give you a diet to help you reduce the level of cholesterol.

Mrs. Yang: 大夫，胆固醇真的这么重要吗？我并不觉得胸部疼，这个与心脏动脉有什么关系呢？

Doctor: I will explain what the situation is. The heart has three arteries. When only one of them is blocked, the problem is not too significant. However, when they are all blocked, as in your case, the problem can be serious and the question of a by-pass operation emerges. At the moment, your heart is functioning normally, despite the blocked arteries. The attack hasn't damaged the muscle severely, and you haven't been feeling chest pain. That is why we haven't considered operating yet, and we are trying to improve the situation by providing you with a proper diet that will reduce your cholesterol level. However, as soon as you start feeling chest pain, we will consider an operation.

Mrs. Yang: 谢谢您的指导，我现在明白多了，但愿不需要动手术。

Doctor: Very well. Here you are. I want to see you in two months' time and take another ECG. I will also send you to another dietician. My secretary will make the appointment for you. Goodbye.

NOTES:

- ③ **胆固醇 (cholesterol):** 胆固醇存在于血液中的脂蛋白中 (lipoprotein)，其存在形式包括高密度脂蛋白胆固醇 (HDL, high density lipoprotein)、低密度脂蛋白胆固醇 (LDL, low density lipoprotein) 与极低密度脂蛋白胆固醇 (VLDL, very low density lipoprotein) 等。高密度脂蛋白有助于清除细胞中的胆固醇，而低密度脂蛋白超标一般被认为是心血管疾病的前兆。豆类、牛奶、海鱼、苹果、葡萄等含高密度脂蛋白多，而动物内脏、蟹黄、鱼子、蛋黄、松花蛋等含低密度脂蛋白多。

Part III Consecutive / Simultaneous Interpreting

Directions: Interpret the first passage into Chinese and the second into English.

Passage One

Screening^④ for Heart Disease

Ladies and gentlemen,

Heart disease is a leading cause of death worldwide, and affects not only the heart but other major parts of the body. Early detection prevents complication such as heart failure, stroke, kidney disease and artery disease. I am going to detail an individual's risk to the disease as well as recommendations for prevention.

Heart (Cardiovascular) Screening

Heart disease is a broad term that describes a range of diseases of the heart and blood vessels. "Heart disease" is often used interchangeably with "cardiovascular disease".

Why is cardiovascular screening important?

Cardiovascular disease begins with damage to the body from lifestyle factors of smoking, physical inactivity and unhealthy diet. This progresses to the development of high-risk diseases such as obesity, high blood pressure and diabetes.

Screening identifies those at risk of future cardiovascular events of the heart and other major body organs. It also identifies those with modifiable risk factors, which are reversible and reduce one's risk of developing cardiovascular disease.

Who should go for screening of cardiovascular risk factors?

Every adult aged 18 and above should go for screening of cardiovascular risk factors. Patients with diabetes, high blood pressure and long-standing kidney disease have a higher risk for cardiovascular disease and should be screened regularly based on their doctor's advice.

What is global cardiovascular risk assessment?

Global cardiovascular risk assessment involves assessing a patient's total cardiovascular risk rather than just assessing risk factors (high cholesterol, blood pressure, diabetes or obesity) in isolation.

The best known global cardiovascular risk assessment tool is the Framingham

Risk Score (FRS)^⑤. Click on this link to try calculating your own risk score.

It should be done every five years starting from the age of 18. For individuals at risk but who have no symptoms, the assessment is followed by advice on making certain lifestyle changes such as cutting back on cigarettes, eating healthy foods and exercising regularly and, where appropriate, medicines are given to treat high blood pressure, high lipids and diabetes. Individuals at low risk should continue to lead a healthy lifestyle. More frequent assessment is recommended for those who are diabetic, chronic smokers or obese.

How to calculate the ten-year coronary artery disease risk?

It is calculated based on age, sex, ethnicity, smoking status, Total and High Density Lipoprotein (HDL) or good cholesterol level, systolic blood pressure.

NOTES:

- ④ **screening:** To screen for a disease means to examine people to make sure that they do not have it. (疾病的) 筛查, 检查
- ⑤ **Framingham Risk Score (FRS)** : 1947年11月, 美国马萨诸塞州的弗雷明汉 (Framingham) 成立了心脏病学研究基地 (Framingham Heart Study)。1998年该研究提出了针对冠心病的风险评分, 即Framingham Risk Score。这个评分函数把男性和女性分为两组, 将不同年龄段、总胆固醇值、是否吸烟者、高密度脂蛋白值和收缩压值等指标赋以分值, 测试者将自己的得分相加, 得出总分对照患病机率表, 即可预测出10年中患心血管病的机率。

Passage Two

高血压与肾病

有些病人到了尿毒症期才醒悟, 原来高血压是罪魁祸首。在此提醒大家: 血压持久升高可对心、脑、肾、血管等“靶器官”造成损害。

高血压是怎么影响肾脏的呢? 肾血管压力过高会导致肾血管病变。肾脏损伤初期, 仅有轻度蛋白尿, 随着病情发展, 肾功能逐渐下降, 如果病情迅速恶化, 头痛为突出症状, 伴有恶心、呕吐、食欲缺乏、心脏扩大、心力衰竭、视力模糊, 甚至失明、精神错乱及神经系统异常。尿检可出现尿蛋白^⑥量增多, 并有红细胞和白细胞。少数病人出现肉眼血尿^⑦, 所以要保护肾脏, 就得控制血压。

高血压与肾病互为因果，如果不加以控制，则会恶性循环。高血压防治的最终目的应该是控制危险因素，保护“靶器官”。

NOTES:

- ⑥ 尿蛋白: urine protein。尿蛋白是尿液通过酸化加热后混浊而检出的蛋白质。正常人24小时尿蛋白的范围为 $\leq 0.15\text{g}$ ，常规化验尿蛋白检测为阴性。如检测尿蛋白 >150 毫克/日，即尿蛋白阳性时，说明人体排出的尿蛋白量明显增多，属于异常尿蛋白（proteinuria）。
- ⑦ 肉眼血尿: macroscopic hematuria / gross hematuria。尿液中含有一定量的红细胞时称为血尿，肉眼看到血样或呈洗肉水样尿，称为“肉眼血尿”。

Part IV Terms

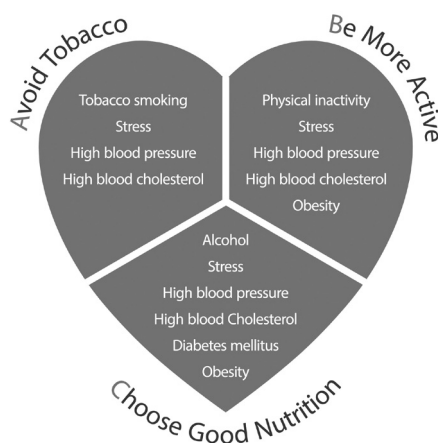
- 1. accelerated angina pectoris 恶化型心绞痛
- 2. acquired heart disease 后天性心脏病
- 3. Adams-Stokes syndrome 阿-斯综合征
- 4. angina decubitus 卧位心绞痛
- 5. angina pectoris 心绞痛
- 6. Aortic Regurgitation 主动脉瓣返流
- 7. atrial septal defect 房间隔缺损
- 8. cardiac arrhythmia 心律失常
- 9. cardiac tumor 心脏肿瘤
- 10. cardiomyopathy 心肌病
- 11. congenital heart disease 先天性心脏病
- 12. coronary heart disease 冠心病
- 13. heart bypass surgery 心脏搭桥手术
- 14. Holter monitor 动态心电图，动态心电图监护仪
- 15. hypertensive heart disease 高血压性心脏病
- 16. hypertrophic cardiomyopathy 肥厚性心肌病
- 17. hypotension 低血压
- 18. infective endocarditis 感染性心内膜炎
- 19. initial onset angina pectoris 初发型心绞痛

20. mitral valve prolapse 二尖瓣脱垂
21. multivalve heart disease 多瓣膜疾病
22. myocardial infarction 心肌梗死
23. myocardial ischemia 心肌缺血
24. pacemaker 起搏器
25. post-infarction angina pectoris 梗塞后心绞痛
26. premature beat 早搏
27. pulmonary atresia 肺动脉瓣闭锁
28. pulmonic incompetence 肺动脉瓣闭锁不全
29. pulmonic stenosis 肺动脉狭窄
30. rheumatic heart disease 风湿性心脏病
31. sick sinus syndrome 病（态）窦（房结）综合征
32. stable angina pectoris 稳定型心绞痛
33. sudden cardiac death 心源性猝死
34. tetralogy of Fallot 法洛四联症
35. tricuspid incompetence 三尖瓣关闭不全
36. unstable angina pectoris 不稳定心绞痛
37. variant angina pectoris 变异型心绞痛
38. vasculopathy 血管病
39. ventricular septal defect 室间隔缺损

Part V Medical Knowledge

Directions: Read the following passage for extra knowledge. It can be a script for interpreting training.

Dummies Guide to Stroke



A stroke occurs when blood supply to a part of the brain is cut off, and the cells in that part of the brain die. When this happens, the functions that are controlled by that part of the brain are lost. Depending on which part of the brain is affected, a person may have different symptoms.

Blood is brought to the brain by blood vessels called arteries. A stroke happens when an artery to the brain is blocked or bursts. This may be due to high blood pressure or a weak artery wall from birth.

Causes & Risk Factors

Some risk factors for stroke are unchangeable (e.g. age and family history).

Others are related to our lifestyle. They include:

- **Smoking**
- **Overweight**

Being overweight increases your chances of getting other stroke risk factors like high blood pressure, heart disease, high blood cholesterol, atherosclerosis and



diabetes.

- **Diet**

Eating foods which have excess salt and are high in saturated fat can lead to high blood pressure and thus increase your risk of stroke.

- **Sedentary lifestyle**

Being inactive increases your risk of being overweight and having other stroke risk factors.

- **Alcohol**

Drinking too much alcohol increases your risk of stroke.

- **Stress**

Stress, if not managed properly, can lead to high blood pressure.

Some medical conditions if poorly controlled can increase risk of stroke. These include:

- High blood pressure
- Atrial fibrillation (a heart rhythm disorder)
- High LDL cholesterol
- Diabetes

Signs & Symptoms

One or more of the following symptoms may be present:

- Sudden numbness or weakness usually on one side of the body
- Sudden confusion or a fit
- Difficulty in speaking or understanding
- Sudden difficulty in seeing in one or both eyes
- Sudden difficulty in walking
- Difficulty in swallowing
- Sudden severe giddiness, loss of balance or coordination
- Sudden severe headache with no known cause
- Loss of concentration and memory
- Loss of control of passing urine or pass motion

Screening & Diagnosis

If you have the signs and symptoms of stroke such as weakness or numbness of the limbs, you will undergo some tests which may include:

- Blood tests (e.g. to detect diabetes and high blood cholesterol).
- Brain scan — usually a CT or MRI scan to confirm the type of stroke (whether it is due to a blood clot or burst blood vessel) and where it has occurred.
- ECG (electrocardiogram) — to look for heart disease.
- Ultrasound scans (e.g. of the blood vessels to the brain to look for abnormalities).
- Angiogram — an x-ray test in which a small tube inserted via a blood vessel in the groin to reach the blood vessels to the brain. A dye injected through the tube then shows the degree of blockage of blood vessels or the location of the bleeding in the brain.

Treatment

- Medication — the doctor may prescribe medication, for example, in the case of a stroke caused by a blood clot, “blood thinners” may be prescribed.
- Surgery — a stroke that is caused by a blood vessel that has burst may require urgent surgery to stop the bleeding. In other cases, surgery may be performed later, to reduce the risk of another stroke, for example if there is serious narrowing of the neck artery, an operation may be done to remove or open up the narrowed area.
- Rehabilitation — this is a very important part of treatment for stroke.

Self-care

Lead a healthy lifestyle.

- Do not smoke.
- Aim to maintain healthy weight range. Keep your BMI at 18.5-22.9kg/m²s (For Asians).
- Have a healthy diet, which is low in fat, salt and sugar and high in fiber. And take at least 2 servings each of fruits and vegetables daily.
- Exercise for 30 minutes at least 5 days a week. If you have not been exercising regularly, check with your doctor before you start an exercise program.
- Limit alcohol intake to no more than 2 standard drinks per day.
 - 2/3 small can of beer (220ml)
 - 1 glass of wine (100ml)

- 1 nip of spirit (30ml)
- Manage your stress.

Living with Stroke

The aim of post-stroke rehabilitation is to allow you to regain as much independence as possible. Rehabilitation will start as soon as your doctor feels it is possible and will continue after your discharge from hospital.

Rehabilitation usually involves a group of specialists and depends on the type of stroke.

Rehabilitation includes:

- Teaching of mobility skills (physiotherapy) — walking, moving from chair to bed, etc.
- Swallowing and speech therapy.
- Teaching of self-care skills (occupational therapy) like bathing, dressing and feeding independently.

Your doctor will refer you to the appropriate rehabilitation specialist (e.g. physiotherapists, speech therapists). Rehabilitation often continues on an outpatient basis after discharge from hospital.

Prevention

- Go for regular check-ups.

What your doctor will do	Recommended frequency
Check for the pressure of risk factors for stroke	Once a year
Check the need for rehabilitation	At diagnosis and subsequently as advised
Measure your blood pressure	At diagnosis and 3-6 monthly
Do a blood test for fasting lipids	Soon after diagnosis and 6-12 monthly
Educate you on stroke and its management	Soon after diagnosis and as deemed necessary
Follow up of any complications detected	As deemed necessary

- Watch out for a TIA

A transient ischemic attack (TIA) is a warning sign of a stroke. However, not all who have a stroke get this warning sign. A TIA happens when blood supply to a part of the brain is temporarily cut off. It may last from a few seconds to up to 24 hours, after which there is complete recovery. Because symptoms of a TIA are often vague and temporary, people tend to ignore them. Early effective treatment of a TIA can help to prevent a stroke from occurring in the future.

Should you have any of the following warning signs, you should see a doctor immediately:

- Sudden, unexplained tingling and / or numbness on one side of the body.
- Sudden weakness or paralysis of the face, arm or leg.
- Sudden severe headache with no obvious cause.
- Dizziness or fainting.
- Blurred vision.
- Difficulty talking.
- Stumbling and / or sudden clumsiness.

Stroke is an emergency. The earlier the treatment, the better the recovery. The longer a stroke goes untreated, the greater the damage. Once a part of the brain dies, it cannot be repaired and the effects are permanent.

Follow your doctor's advice on diet and physical activity and take any medication that is prescribed diligently.