CARDIOVASCULAR DISEASE

Concept of hypertension

- Hypertension is a syndrome whose etiology is unknown in 85-90% of cases, where there exists a chronic and sustained increase in blood pressure, resulting from an increase in peripheral resistances.

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- Blood pressure is to be determined by performing> 2 separated by> 2 minutes measurements.

JAMA 2003; 289: 2560

Classification of Hypertension

Blood pressure	Systolic	Diastolic
Normal	< 120	< 80
Prehypertension	120- 139	80-99
Stage 1	140-159	90-99
Stage 2	> 160	> 100

Clasification of JNC - 7

What are the symptoms of hypertension

- Most of the time in most patients, there are no symptoms.
- Since there are no symptoms people may experience cardiovascular complications, which is why hypertension is called the "silent killer"

Etiology

- Essential: 95% onset of 25-55 years, positive family history. Unknown mechanism (renal microvascular lesions over time with cumulative contribution of sympathetic hyperactivity)
- A > age = lower arterial distensibility = SHA.

NEJM 2002;346:913

Nature 2011;478:103

Etiology

- Secondary: Consider it if the patient is < 20 or > 50 years or if hypertension starts suddenly, is severe or do not respond to treatment.
- They can be: Renal, endocrine and others.

Complications of hypertension

- For each 20 mm Hg increase in systolic or 10 mm Hg diastolic, there are 2 times greater risk of cardiovascular complications
- Neurological: TIA (transient ischemic attack) / stroke, ruptured aneurysms, vascular dementia.

Lancet 2002 ;360:1903

Who to analyze?

- Adults 40-80 years old with no risk factors.
- Adults <40 years old with a family history of premature atherosclerotic disease.

What to analyze?

- Record of blood pressure, height, weight, medical history.
- Age
- Sex
- Tobacco use
- Blood Pressure (BP)
- Relationship between total cholesterol and HDL

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Complications

- Cardiac: coronary disease, left ventricular hypertrophy, heart failure, atrial fibrillation.
- Vascular: aortic dissection, aortic aneurysm (SAH main risk factor for aneurysm)
- Renal (proteinuria, renal failure)

Lancet 2002 ;360:1903

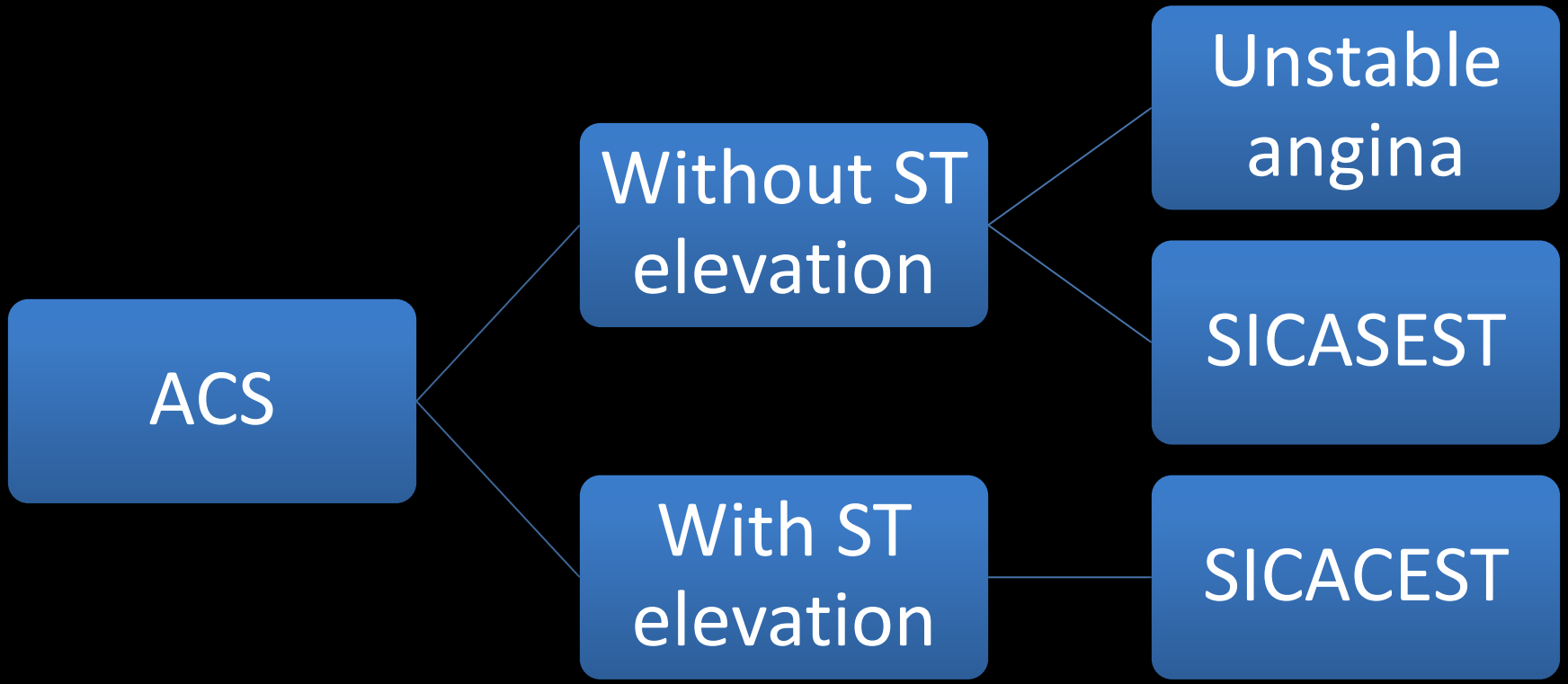
Concept of cardiovascular risk

- Cardiovascular disease, which consists of coronary heart disease (CHD) and cerebrovascular disease (TIA / CVA) is a major cause of morbidity, mortality and premature death (before the age 75)

Cardiovascular risk factors

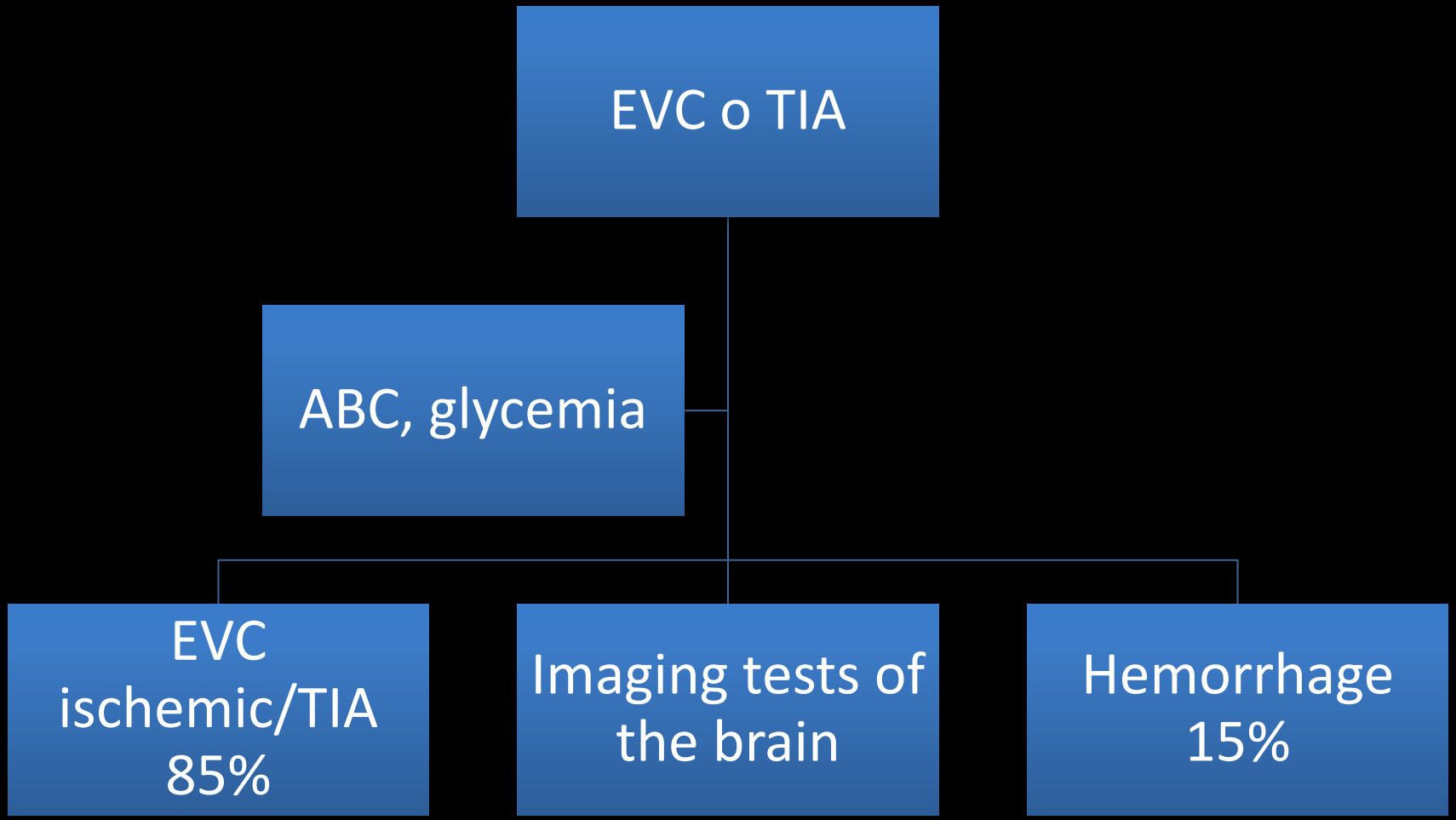
Major	Minor
Hypertension Diabetes Hypercholesterolemia Smoking habit	Sedentary Obesity Stress (personality type A) Plasma Hyperhomocysteinemia Menopause

Acute coronary syndrome



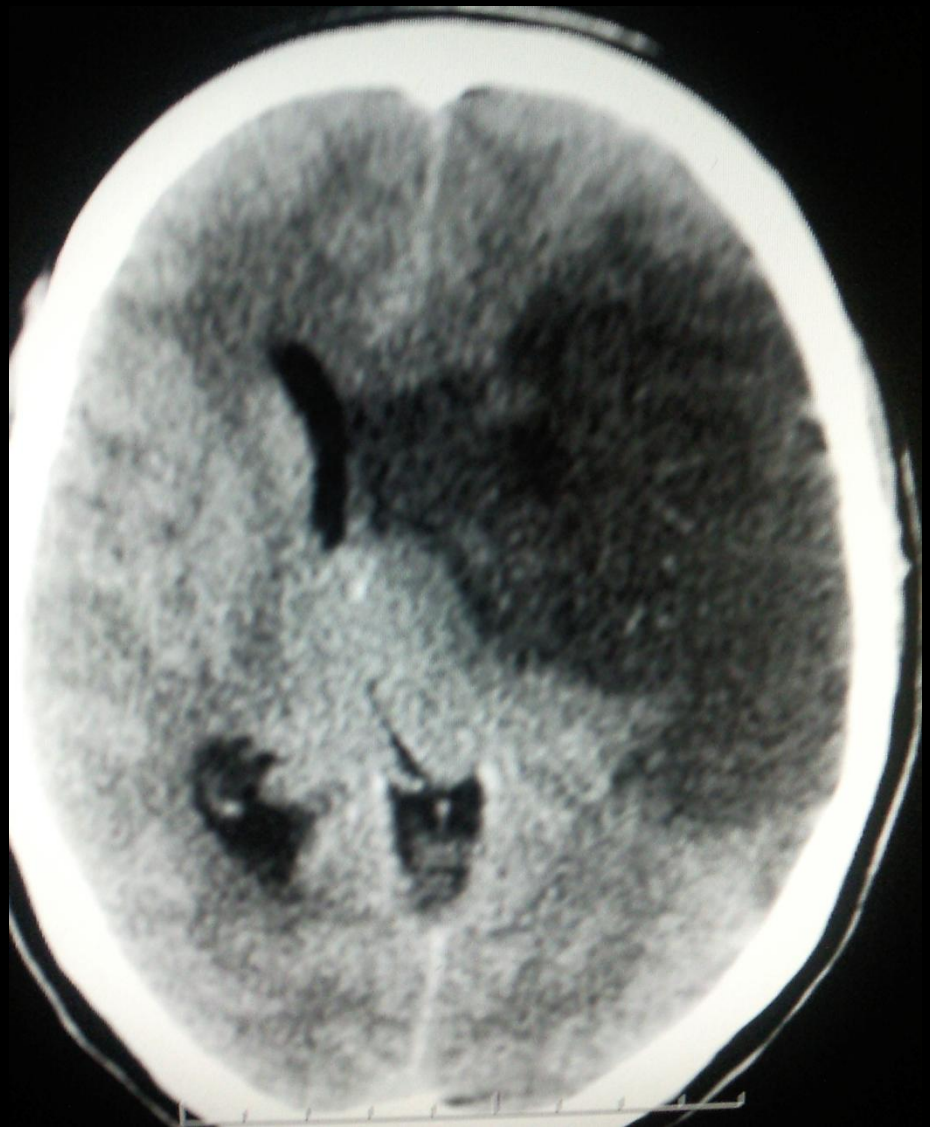
Modified of Alpert. Myocardial infarction JACC 2000

Cerebral Vascular Disease



Harrison medicina interna 17ª edición vol II

Ischemic CVD
Tomographic image



EVC hemorrhagic
Tomographic image

Treatment goals

Optimal treatment goals
PA < 140/85 mmHg or Patients with established atherosclerotic disease, diabetes mellitus or chronic renal insufficiency PA < 130/80 mmHg
Standard audit (minimum care for all high-risk patients)
PA < 150/90 mmHg or Patients with high risk PA < 140/80 mmHg

JNC7

• Non-pharmacological treatment

- Changes in lifestyle
- Suppression of tobacco dependence
- Physical Activity
- Weight reduction
- Reduced sodium intake
- Adequate intake of potassium
- Diet rich in fruits, vegetables, and reduction of total fat

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Factors related to lifestyle

- Sedentary
- Regular physical activity is associated with a reduced risk of premature death and CVD.

- The Framingham Study. Am J Epidemiol 1994

Factors related to lifestyle

- Obesity
- Obesity is associated with an increased risk of CVD and its estimation is based on the BMI measurement.

- Circulation 2005
- Arch Intern Med 2007

Factors related to lifestyle

- Alcohol consumption
- Excessive alcohol consumption is directly related to ischemic and hemorrhagic stroke, especially in young subjects, depending on the dose.
- Figures > 60 gr/day increase the risk of isquemic CVD 1.3-2.2 % and hemorrhagic

- Stroke 2008

Factors related to lifestyle

- . Nutrition
- Reduced consumption of Na (sodium)
- The high consumption of fruit and vegetables was related with a reduced risk of CVD (2 pieces / day)
- Fish consumption 1 time per month was associated with a decrease in ischemic CVD.

- JAMA 1999
- The JACC study Stroke 2006

Factors related to lifestyle

- Vitamins
- Reduced vitamin D consumption is associated with increased risk of CVD.
- Meta-analysis of clinical trials with vitamin E supplements showed that there could be an increase in mortality with a consumption of high doses (> 400 IU / 7d).

- Nutr Metab Cardiovasc Dis 2005
- Stroke 2004
- Ann Intern Med 2005

- Water
- Rest
- Exercise
- Sunlight
- Fresh Air
- Nutrition
- Temperance
- Hope (trust in God)

Biblical Clinical Case

- 1 Samuel 25: 2-38. (See the story of David, Abigail and Nabal)
- Verse 36: risk factors that Nabal had are mentioned.
- Verse 37: Nabal became like stone; it is very likely that he had suffered a stroke that paralyzed him.
- Verse 38: 10: Nabal dies days later, by a complication of the cerebrovascular accident (cerebral edema, intra cranial hypertension, cardiac dysfunction, cardiac arrhythmia etc.)

Biblical Support

- Keep your heart with all diligence, for out of it *spring* the issues of life. Proverbs 4:23
- I will give you a new heart and put a new spirit within you; I will take the heart of stone out of your flesh and give you a heart of flesh. Ezequiel 36: 26