

HEALTH LITERACY MODULE

Cardiovascular Health in Old Age

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Contents

CVD deaths worldwide

Cardiovascular risk factors

HYPERTENSION (HT)

Hypertension (HT) definition

Classification of HT

Risk factors for HT

Symptoms and Findings of HT

Results of HT

Measurement Procedure

Diastolic Blood Pressure(DBP)

Hypertension treatment goals

Treatment of HT

HYPERLIPIDEMIA (HL)

Cholestrol

Second Causes of Cholesterol Elevation

Treatment of HL

Pharmacologic Therapy

DIABETES MELLITUS (DM)

Tests for diabetes

A1C goal [Digital Literacy](#)

Pharmacologic Therapy



CVD deaths worldwide

- **Cardiovascular diseases (CVDs) are the leading cause of death globally. An estimated 17.9 million people died from CVDs in 2019, representing 32% of all global deaths. Of these deaths, 85% were due to heart attack and stroke.**
- **Over three quarters of CVD deaths take place in low- and middle-income countries.**
- **Adults age 65 and older are more likely than younger people to suffer from cardiovascular disease**

Cardiovascular risk factors

- Gender
- **Age**
- Cigarette smoking
- High blood pressure
- Diabetes
- Obesity
- Lack of physical activity
- Abnormal blood cholesterol
- Homocysteine levels

The more risk factors a person has, the greater the likelihood of developing heart disease. Heredity, gender, and age cannot be modified, but the others can be influenced by the individual's behavior

Hypertension (HT)

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Hypertension (HT)

Hypertension (HT) is called when the systolic blood pressure is greater than 140 mmHg and the diastolic blood pressure is greater than 90 mmHg

Classification of HT

Kategori	SBP		DBP
Normal	< 120 mmHg	and	< 80 mmHg
Prehypertensives	120-139 mmHg	or	80-90 mmHg
Stage 1 HT	140-159 mmHg	or	90-99 mmHg
Stage 2 HT	> 160 mmHg	or	> 100 mmHg

Risk factors for HT

- Heredity
- Using excessive salt
- **Age increase (over 65 years)**
- Race (Black race)
- Gender
- Stress
- Elevated serum cholesterol
- Smoking
- Diabetes Mellitus
- Obesity

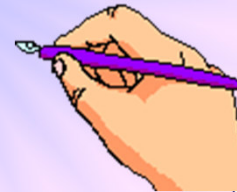
Symptoms and Findings of HT

- Headache (The most common symptom)
- Vertigo
- Nausea
- Vomiting
- Dizziness
- Memory problems
- **There may not be any complaints!!!**


Results of HT

- MI (Heart attack)
- Thickening of the heart muscle
- Kidney failure
- Stroke
- Heart failure
- Aneurysm(Large vessel dilatation)
- Eye damage
- Death due to cardiovascular diseases

**CHECK YOUR
BLOOD PRESSURE**



Measurement procedure

- You must have been rested for at least 5 minutes before the measurement procedure
- Food , anxiety, temperature, physical activity affect blood pressure. At least half an hour before exercise, food, smoking 
- Environment temperature must be warm
- The arm should be at the heart level and supported

Blood Pressure

Goal in people 60 (If there is no diabetes or chronic kidney disease)

150/90 mmHg

Target with diabetes or chronic kidney disease:

140/90 mmHg



Diastolic Blood Pressure(DBP)

- It's not recommended to fall to much in the elderly
- There is no specific safe low limit for DBP
- In the study done in the elderly

DBP<65 mmHg → Risk of event related to cardiovascular disease (eg heart attack)

DBP<60 mmHg → Stroke risk↑

Treatment of HT

- Lifestyle changes
- Drug therapy



Lifestyle changes

- Leave the smoking
- Salt restriction
- Weight loss
- Exercise



Important!!!

Elderly patients respond adequately to changes in lifestyle as much as younger. For this reason, lifestyle changes should be recommended for every patient

Salt restriction is important in elderly

- The effect salt on blood pressure increases with aging
- Aging changes in taste cause more salt consumption
- The blood pressure reduction effect of salt restriction increases with aging
- Salt should be consumed at 100-120 meq/day(2.3-2.8 gr)
- 1 wiping sweet spoon salt: 4 gr

Exercise

- Apart from lowering BP and losing weight, there are many benefits
- Type of exercise
 - Aerobic exercise,
 - Resistance exercises
 - Stretching exercises
- If does not carry a risk and is not complaint , there is no need for the cardiologist to assess the cardiovascular risk
- The exercise program should also be personalized in the elderly

When treating HT in the elderly

- Doses should be started low
- Since the physiological mechanisms regulating the blood pressure and brain blood flow are affected by aging, BP should be slowly and gradually reduced except in cases of hypertensive emergencies
- Combination therapy should be administered in elderly people who don't have single drug to control BP



Hyperlipidemia(HL)

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Cholesterol

- **Cardiovascular diseases are common in older women and men**
- **Cholesterol is a risk factor for cardiovascular diseases**

Second Causes of Cholesterol Elevation

These diseases are common in the elderly

- Hypothyroidism
- Diabetes Mellitus
- Nephrotic syndrome
- Thiazide diuretics
- Antipsychotics

Cardiovascular Disease in the Elderly and Death from Cardiovascular Disease

- High cholesterol level
- High LDL cholesterol level
- Low HDL cholesterol level



Risk factors

TOTAL BLOOD CHOLESTEROL

**Bad Cholesterol (LDL)
Low Density Lipoprotein
(mg / dL)**

< 100	optimal
100 - 129	above optimal
130 - 159	high risk
> 160	very high risk

**LDL delivers Cholesterol
to the body**

**Good Cholesterol (HDL)
High Density Lipoprotein
(mg / dL)**

> 60	protective vs heart disease
< 50 <i>for female</i>	high risk
< 40 <i>for male</i>	high risk

**HDL removes Cholesterol
from the bloodstream**

Diet

- **Diet is important in the treatment of cholesterol elevation.**
- **However, excessive restriction should be avoided in elderly patients with a high risk of malnutrition.**
- **This group is composed of elderly people with dementia or physical limitations.**

Pharmacologic Therapy

- **Approximately 50% of the elderly die from cardiovascular disease and primary protection may be more beneficial in older patients than in young people**
- **The treatment of high cholesterol levels for secondary prevention (those with diabetes and / or cardiovascular disease) is as effective as young people in the elderly**
- **Despite the benefits of treatment in the elderly, both elderly people are worried about treatment compliance and doctors are afraid to give treatment to old people.**
- **Cholesterol treatment in the elderly should be personal. Expected life expectancy, associated diseases, medications and functionalities should be taken into account except for the age of the patient.**

Diabetes Mellitus(DM)

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Tests for diabetes

Doctors use several blood tests to help diagnose diabetes:

- **Random plasma glucose test — given at any time during the day**
- **A1C test — given at any time during the day; shows your average glucose level for the past three months**
- **Fasting plasma glucose test — taken after you have gone without food for at least eight hours**
- **Oral glucose tolerance test — taken after fasting overnight and then again two hours after having a sugary drink (This is not regularly given for type 2 diabetes).**

A1C goal

- For those without other major comorbidities, an A1C goal of 7–7.5% and a fasting glucose target range of 6.5–7.5 mmol/L (117–135 mg/dL) are recommended,
- Whereas for frail older adults and those with multisystem disease, an A1C goal of 7.6–8.5% and a fasting glucose target range of 7.6–9.0 mmol/L (137–162 mg/dL) are ...

Pharmacologic Therapy

- In older adults with type 2 diabetes at increased risk of hypoglycemia, medication classes with low risk of hypoglycemia are preferred.
- Overtreatment of diabetes is common in older adults and should be avoided.
- Deintensification (or simplification) of complex regimens is recommended to reduce the risk of hypoglycemia and polypharmacy, if it can be achieved within the individualized A1C target.
- Consider costs of care and insurance coverage rules when developing treatment plans in order to reduce risk of cost-related nonadherence.

References

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